XII. Funding and Prioritization Strategies for North Carolina Beach and Inlet Projects

North Carolina beaches are dynamic, subject to powerful natural forces of wind, waves and tides. While engineers and planners work through the complex and difficult alternatives to protect coastal resources and maintain the shoreline, one conclusion can be fairly reached: the demand for and cost of shoreline and inlet management projects – especially beach renourishment projects – has outgrown existing fiscal capabilities at the state and local level.

The Beach and Inlet Management Plan assesses the existing funding programs employed in North Carolina to pay for beach restoration and shoreline management projects while identifying new approaches that could provide a more solid financial foundation for these projects. In addition, the plan includes some ideas for potential prioritization criteria that could be utilized in allocating funding.

North Carolina's oceanfront counties rank among the fastest growing areas of the state. This increase in coastal development has created conditions for greater conflict between natural shoreline processes, such as erosion and storm-related shoreline change, and development interests. While the state has developed strong long-term policies for management of ocean and inlet shorelines, it has sometimes struggled with the application of those policies to imminently threatened development. With regard to addressing the impacts of erosion, the state has traditionally taken a supporting role rather than leading the planning efforts for projects designed to mitigate those impacts. As erosion problems have historically been viewed as a local issue, local officials have initiated most shoreline protection projects by either pursuing funding for a federal hurricane mitigation project (for which the state has traditionally provided matching funds) or proposing local projects based on local revenue sources. As a result, North Carolina's approach to ocean shoreline management has been decentralized and lacks a coastwide framework for planning, prioritizing and funding.

Without effective planning, the state's coastal communities and a significant part of its economic base will continue to be under threat from coastal erosion, shifting shorelines, and storms. The conflict between shoreline processes and more intensive development needs to be addressed in a more consistent and comprehensive manner that includes a discussion of the adequacy of the state's existing shoreline project funding programs and consideration of a dedicated state fund.

The BIMP is intended to address three aspects of a comprehensive planning effort. The first step is to comprehensively evaluate the existing condition of the state's beaches and identify not only historical and ongoing shoreline erosion projects, but to also identify potential future shoreline projects to restore and maintain the beaches. Included in this evaluation is an estimation of the total and annual cost of beach maintenance, providing a necessary starting point for the funding analysis and recommendations.

In order to facilitate planning and prioritization of projects, the BIMP divides the coast into four regions and five sub-regions, as described in Section V. These regions reflect physical distinctions along the coast and generally coincide with established political and jurisdictional boundaries, providing a coherent framework for development of regional funding strategies.

A final aspect of a comprehensive planning effort includes the need to develop a stable funding mechanism to support the state's beach restoration and shoreline management programs, which include public access, relocation and land conservation efforts.

Effective shoreline management policies necessitate a comprehensive understanding of the causes and effects of shoreline change; sound planning and engineering; and comprehensive implementation strategies. Even with these elements in place, the efforts of the state and local communities may still be unsuccessful if the necessary financial resources are not identified. As one of the essential elements of comprehensive shoreline management effort, the development of a stable, long-term financing plan to support shoreline management is imperative.

This section is not intended to serve as the sole basis for action, as it is only an evaluation of what has and has not worked to fund beach restoration and shoreline management efforts in the past. Developing new and more stable mechanisms will certainly require additional stakeholder input, discussion, and deliberation.

A. Economic Value of North Carolina Beaches

Summertime beach populations increase dramatically and provide a massive injection of business revenue and tax dollars into the state's economy. Over the last 10 years, North Carolina's coast has increasingly become a favored location for recreation and business. The barrier islands are home to more people today than at any other time in the state's history and the value of the investments and economic activity generated by hundreds of thousands of visitors a year is literally worth billions of dollars.

1. Coastal & Beach Tourism

The Outer Banks, a three county area on North Carolina's northeast coast (Hyde, Dare, and Currituck Counties), is one of the most visited regions of the state. According to the Census Bureau, Currituck County had about 23,100 residents in July 2005 while Dare County had about 33,900. Together, these two Outer Banks counties have a permanent resident population of about 57,000, representing less than one percent of the 8.5 million North Carolinians. However, the effective peak daytime population in Dare County alone has surpassed 220,000 during the 2005 summer tourist season. In effect, Dare County's population grows by nearly seven times its resident population on a typical summer day. It is estimated that nearly 32,500 jobs in Dare and Currituck counties are attributable to

tourism demand. [1] In addition to the beaches of the municipalities, the Cape Hatteras National Seashore is a draw for tourists, with over 415,700 people visiting the Seashore during the month of August 2008 alone.

In the Town of Oak Island (Brunswick County), the summer population (June to September) typically swells 500 percent, from a year-round level of about 8,300 to a peak of more than 49,000, averaging more than 36,000 people.

In 2000, the permanent population of Carteret County was 59,405 but, during the summer season, the population more than tripled to over 194,000. In 2025, it is projected that the county's permanent population will reach 70,765 but its seasonal population will exceed a quarter million, reaching 254,586.[2] On Bogue Banks, comprised of the Towns of Atlantic Beach, Pine Knoll Shores, Indian Beach, Salter Path and Emerald Isle, the summertime population will typically grow from about 5,000 to more than 50,000. In Emerald Isle alone, the population grows from 3,855 in the off-season to about 40,000 at the peak of the summer, averaging about 30,000 throughout the summer.[3]

Topsail Island (Pender and Onslow Counties) comprised of the Towns of North Surf City and Topsail Beach, has a similar summertime population surge that averages more than 75,000 daily residents over the course of the summer. The Town of Surf City (Pender County) specifically, has a permanent population of just over 1,800 residents, that grows to 20,000 people in town each day of the summer season. Over a single summer season, more than 500,000 visitors will make their way to Surf City.

In Wrightsville Beach (New Hanover County), the population increases from approximately 2,700 to a summertime peak population of 50,000.

Coastal tourism, and specifically beach-oriented tourism, is quite possibly the single greatest contributor to the state's tourism economy, accounting for more than $2.6 billion in economic activity in 2009. In his 2000 testimony before the Coastal Beach Movement, Beach Renourishment, and Storm Mitigation Committee, Dr. Richard Levin, Professor of Economics at the UNC Kenan-Flagler School of Business, testified that beaches are the number one tourist destination in the United States, accounting for $195 billion in tourism expenditures and supporting 2.82 million jobs in 1999. In North Carolina, Levin concluded that coastal tourism expenditures were $2.9 billion per year and supported 50,000 jobs. With respect to beach nourishment projects, Levin testified that North Carolina would see a return on investment of $386 for every dollar spent to nourish the state's beaches.

[1] "The Outer Banks Economy," Dr. James Kleckley, Director, Bureau of Business Research, College of Business, East Carolina University, 2007 (Outer Banks Chamber of Commerce Website).

[4] "An Economic and Demographic Profile for North Carolina's Eastern Region," December 2003, Market Street Services, Inc.

Dr. James Kleckley, Associate Director of Planning and Institutional Research at East Carolina University, joined Levin in attesting to the economic value of the state's beaches. Kleckley argued that investment in beach restoration projects can and should be approached as an economic development investment, much the same as an industrial park is an investment for inland communities.

2. The Economy of Beaches Compared to Other Recreational Activities

On an annual basis, visitors to North Carolina's beaches and coastal counties dwarf other well-known and recognized attractions in the state. In an effort to illustrate the economic importance of beach tourism when compared to other activities, beach tourism can be associated with the revenue generating potential of two other well-known recreational activities – a professional football team or NASCAR racetrack. During the 2008 football season, the NFL's Carolina Panthers averaged 73,210 fans a game at Bank of America Stadium, drawing 585,684 fans over the eight home games. In July 2008 alone, a single summer month, more people visited the beachfront communities on Topsail Island than attended all the Panther home games during the 2008 season. And, according to the Outer Banks Chamber of Commerce, more than seven million people visit the Outer Banks each year, almost twelve times the number of people attending all Panthers' games in a year.

A similar story can be told comparing beaches to the famed Lowe's Motor Speedway in the Charlotte suburb of Concord, considered NASCAR's hometown track. During a typical race week, the town of Concord's population can grow from about 56,000 to more than 200,000 people, temporarily making it the third largest city in North Carolina as fans and tourists visit the speedway. By comparison, daily summertime visitors to the Dare County portion of the Outer Banks will typically exceed 220,000, not for a single weekend, but virtually every day over the course of the summer tourist season. Likewise, Topsail Island's three townships – North Topsail, Surf City, and Topsail Beach – will reach a summertime population of more than 100,000 and sustain that level each day over the course of the summer. North Carolina's beaches draw more visitors to the state's coastal counties in one summer than the combined draw of the top ten NFL teams over a full season.

The beaches are a natural landscape feature, open to the public at little or no cost. Unlike a football stadium or a NASCAR track, there is no entrance fee generating millions in revenue to maintain the beach, even at the Cape Hatteras or Cape Lookout National Seashore beaches. There are no commercial sponsorships, TV contracts, or other revenue streams to support and sustain the resource or repair the beach after a storm. And yet, it is the beach that is the number one tourist destination in the state and the foundation of the economy for the eight oceanfront counties. These same beach visitors generate the tremendous tax revenues in the form of sales taxes, occupancy taxes, and prepared meal taxes that help support the coastal communities and the state budget in general.

Figure XII-1, representing monthly occupancy tax receipts in Carteret County from 1993 to 2007, illustrates the steady and predictable seasonality of the coastal economy and the significant economic contribution tourism makes to the county.

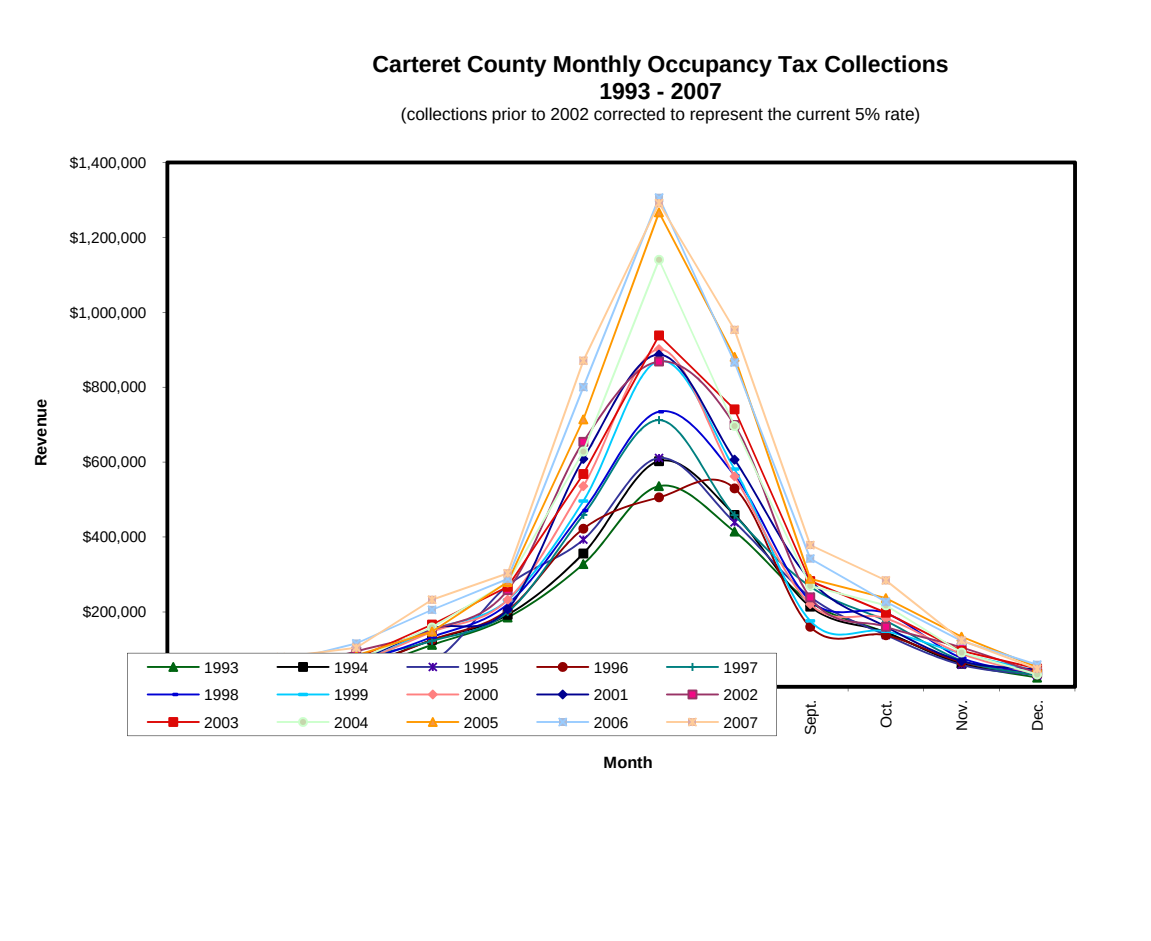

Figure XII-1. Carteret County Monthly Occupancy Tax Collections

3. The Economic Contribution of the State's Beaches and Inlets as a Development Region

Surprisingly, the economic impact of beaches and beach-related tourism to the coastal counties and to the state as a whole is poorly understood. Numerous tourism impact studies and reports are available through the state's Division of Tourism, Film and Sports Development and other sources; however, few fully document the contribution of the beaches to the state's economy.

In its 2006-07 Strategic Plan, the Tourism Division established eleven objectives that included increasing consumer awareness of North Carolina as a travel destination

(Objective 1), increasing the state's tourism market share (Objective 3), increasing visitor spending (Objective 4), and increasing state and local tax revenues from tourism (Objective 10).

While the Strategic Plan specifically seeks to increase the number of, and spending on, film projects (Objectives 6 and 7), increase the number of bottles of North Carolina wines sold (Objective 8), and to increase the number of regional sporting events held in the state (Objective 9), there are no objectives in the Strategic Plan that specifically address coastal and beach tourism. Promoting the state's film and wine industries is undoubtedly important and, while local tourist development authorities along the coast do an outstanding job promoting the North Carolina coast, the lack of clear objectives at the state level to improve and enhance the coastal tourism industry may help explain the lack of data and reporting about this sector of the state's economy.

Coastal tourism has also been overlooked at the regional level. The state has formed seven Economic Development Regions and paired them with seven regional economic development partnerships. The partnerships were created in 1997, under the auspices of a 501 (c)(3) corporation called the North Carolina Partnership for Economic Development (NCPED). North Carolina's seven Economic Development Regions (EDRs) are:

1. Piedmont Triad EDR
2. Triangle EDR
3. Carolinas EDR
4. Northeast EDR (includes coastal counties of Currituck, Dare and Hyde)
5. Southeast EDR (includes coastal counties of Brunswick, New Hanover & Pender)
6. Eastern EDR (includes coastal counties of Carteret and Onslow) and
7. Advantage West EDR

As shown above, the eight coastal counties are not treated as a single economic development region but rather are divided among the Northeast, Southeast, and Eastern EDRs. In addition, the EDRs generally focus on traditional economic development activities such as promoting manufacturing and industrial business development. Even within the Economic Development Regions bordering the Atlantic coast – the Northeast, Eastern and Southeast EDRs – the impact of beach and coastal tourism is not well-studied or emphasized. For example, in the "Economic and Demographic Profile for North Carolina's Eastern Region,"[1] the economic impact of tourism and visitation to the beaches in Carteret and Onslow is not mentioned. In fact, the word "beaches" does not appear in the region's annual report. The effect of this organizational structure appears to unintentionally deemphasize the unique tourism-based economies in the coastal counties and make it difficult to fully analyze, account for, and support this economic sector.

[1] "An Economic and Demographic Profile for North Carolina's Eastern Region," December 2003, Market Street Services, Inc.

For example purposes, if the eight oceanfront counties are examined as an *Atlantic Coast Economic Development Region,* consisting of Currituck, Dare, Hyde, Carteret, Onslow, Pender, New Hanover and Brunswick counties, it allows for a better understanding of the unique economy along the coast. An Atlantic Coast EDR could share many common characteristics, most notably a modest resident population, a seasonal economy largely driven by beach and coastal tourism, and a net positive generator of tax revenues at the federal, state and local levels.

By using the county economic data and the same statistical categories already employed by the state for the existing EDRs, an economic impact table (Table XII-1) for an Atlantic Coast Economic Development Region was compiled. The exercise allows a comparison (see Table XII-2) between a hypothetical Atlantic Coast EDR and the seven established economic development regions in the state. For this comparison, the eight coastal counties – and their economic impact statistics – were removed from the existing EDRs and moved to an Atlantic Coast EDR.

Table XII-1. Hypothetical Atlantic Coast Economic Development Region – 2007 Statistics

Member Counties	Expenditures (millions)	Payroll (millions)	Employment (thousands)	State Tax Receipts (millions)	Local Tax Receipts (millions)	2008 Region Population (EDIS)
Onslow	$159.51	$31.43	1.56	$8.01	$5.81	161,736
Brunswick	$392.19	$77.69	4.97	$17.99	$25.48	105,801
Currituck	$120.01	$23.53	1.52	$5.09	$5.91	25,473
Dare	$762.65	$165.60	11.25	$36.13	$36.33	36,083
Hyde	$27.29	$5.50	0.37	$1.27	$1.53	5,680
Carteret	$269.56	$50.96	3.17	$11.99	$17.39	65,612
New Hanover	$426.08	$99.17	5.67	$20.36	$16.69	193,458
Pender	$66.29	$11.78	0.69	$2.97	$4.73	52,158
Atlantic Coast Region Total	$2,223.58	$465.66	29.2	$103.81	$113.87	646,001

Table XII-2. Comparison of Atlantic Coast EDR to Existing Economic Development Regions

Eight Economic Development Regions	Expenditures (millions)	Payroll (millions)	Employment (thousands)	State Tax Receipts (millions)	Local Tax Receipts (millions)	Number of Counties
Hypothetical Atlantic Coast	$2,223.58	$465.66	29.2	$103.81	$113.87	8
Advantage West	$2,410.72	$508.26	27.94	$119.02	$99.68	23
Carolina	$2,293.87	$480.82	24.32	$120.24	$54.43	12
Global/Eastern	$873.89	$157.31	8.98	$45.81	$21.61	11
Northeast	$302.04	$41.74	2.29	$15.67	$13.31	13
Southeast	$688.56	$122.85	6.79	$36.26	$15.64	8
Piedmont Triad	$4,744.12	$1,464.60	54.52	$227.51	$124.61	12
Triangle	$2,973.97	$782.39	36.87	$146.69	$85.88	13
TOTAL	**$16,510.75**	**$4,023.63**	**190.91**	**$815.01**	**$529.03**	**100**
Atlantic Coastal as percent of Whole	13.5 percent	11.6 percent	15.3 percent	12.7 percent	21.5 percent	8 percent
Atlantic Coastal Region Rank	5th	4th	3rd	5th	2nd	7th
Average Regional Total	$2,063.84	$503.0	23.86	$101.88	66.1	12.5
Atlantic Coast vs. the Average	$159.74	(37.3)	$5.34	$1.93	47.7	(4.50)

If combined as an EDR, the unique characteristics of the oceanfront counties and the nature of their contribution to the state's economy could be better understood. The characteristics of these counties include:

1. Small permanent population: With a total year-round population of 646,001, the eight oceanfront counties represent just 7.1 percent of the state's population of 9,061,032. As a region, the population is 221,066 less than the 867,067 residents of Mecklenburg County, the state's most populated county.
2. Disproportionately large generation of local tax revenues: Surprisingly, the eight oceanfront counties generate almost $114 million in local tax revenues a year, ranking second only to the twelve-county Triad EDR. In all, local tax revenues collected in these eight counties constituted more than 21 percent of all local tax revenues collected statewide in 2007.
3. Significant generation of sales tax revenues: These eight counties also generate a significant percentage of state sales tax revenues, producing almost $104 million annually for the state coffers, or almost 13 percent of the state's total.
4. Total expenditures: Total expenditures in the eight oceanfront counties exceeded $2.23 billion in 2007, ranking fifth compared to other regions overall, but exceeding the regional average by more that $159 million for the year. In 2007, expenditures in the coastal counties accounted for almost 14 percent of the statewide total and were comparable to the 23-county Advantage West EDR ($2.4 billion) and the 12-county Carolina EDR ($2.3 billion).
5. Payroll: In 2007, payroll in the eight oceanfront counties was substantial, reaching almost $465 million for the year, exceeding the payroll produced in the Eastern, Northeastern, and Southeastern EDRs combined.
6. Employment: The eight oceanfront counties rank third in the state for employment, at more than 29,000 jobs in 2007. This total again exceeds the employment total for Eastern, Northeastern, and Southeastern EDRs combined and is greater than the total for either the Advantage West or Carolina EDRs.

Examining the eight oceanfront counties in this fashion shows that no other region is more singularly dependent on one "industry" – in this case, coastal. Protecting and restoring the beaches is essential to the state and regional tourism business.

B. Evaluation of Existing Shoreline and Beach Project Funding Programs

North Carolina has seen a variety of financing experimentation for beach restoration projects. In addition to federal projects, the coastal communities rely on a wide variety of funding mechanisms, approaches, and programs to pay for beach restoration and other shoreline projects. The funding philosophy differs from county to county and city to city, providing a unique opportunity to assess what has and has not worked and why.

1. Federal Funding Programs

The U.S. Army Corps of Engineers (USACE) is the primary federal entity and partner in numerous programs and projects designed to help protect the economy and the environment of our nation's coastal areas by reducing the effects of storms, erosion and flooding. USACE coastal protection and restoration projects include:

- beach fill and nourishment to protect against storm surge and wave-generated erosion;
- construction of shore structures, such as sea walls, breakwaters, and revetments, to protect against flooding and erosion; and
- best practices sand management, such as regional sediment management.

The USACE authority to assist local communities with beach erosion projects is provided by the Water Resources Development Act (WRDA), a federal statute reauthorized every two to four years. Through this law, Congress may grant the USACE the legal and budgetary authority to assist states and local communities in addressing beach erosion. Federal funds to support projects authorized under WRDA are appropriated annually through the Energy and Water Development Appropriations Act.

Under WRDA, Congressional authorization for a beach erosion project can take two forms. First, Congress can specifically direct the USACE to study, design, and construct a particular project by name and establish a dedicated funding source for the project. These are often referred to as "individual project authorizations." Second, Congress has granted the USACE general authority to investigate and construct small, one-time projects that fall within specific categories and budget limits. This general authorization program is called the USACE Continuing Authorities Program (CAP). There are nine separate and distinct CAP authorizations that empower the USACE to assist communities with a variety of water resource related issues. Each of the nine CAP authorities is described and evaluated below.

Whether pursued under an individual project authorization or under one of the USACE nine CAP authorities, every project must be authorized and funded by Congress before the USACE can assist a local community.

a) Project Authorizations Under The Water Resources Development Act

Through WRDA, Congress can grant the USACE the direct authority to study, design, and construct a specific shore protection project. Typically, federal assistance provided by the USACE includes the investigation of the beach erosion problem, project design, placement of sand on the beach, and periodic renourishment over the life of the project. In most cases, the federal commitment to maintain a shore protection project is 50 years.

The federal interest in and responsibility for beach restoration projects was clarified when Congress enacted the Shore Protection Act of 1996. Codified in Section 227 of WRDA, this Act emphasizes the USACE's mission to promote the protection, restoration, and enhancement of sandy beaches. Congress also emphasized that the USACE should cooperate with states and local communities to develop and implement comprehensive state and regional plans for the restoration and conservation of sandy beaches.

Over the last five years, the federal budget for beach restoration projects has been about $100 to $130 million per year. Federal funding appears to be leveling off and competition for federal beach restoration funds is increasing substantially. During the Bush administration, the U.S. Office of Management and Budget (OMB) and the administration sought to place a moratorium on approval of any new federal beach restoration projects. It is unclear at this time whether the Obama administration will follow suit.

Even without a moratorium, convincing Congress to include an individual project authorization in WRDA can be a long and difficult process, taking up to five years or more. In spite of these difficulties, many communities have found it worthwhile to seek federal assistance for the restoration of their beaches.

There are three major requirements that must be met before an individual beach restoration project is authorized by Congress:

1. Each project must have a willing non-federal sponsor (such as a state or local government) able to share in the cost of the project.
2. Each project must have a clear public benefit. To be restored at federal expense, a beach must have sufficient public access to justify federal funding and/or provide substantial storm damage reduction benefits to upland properties and infrastructure. Restoration of private beaches or projects that only benefit private properties are rarely eligible for federal assistance.
3. The project must be economically justifiable and have a positive cost-benefit ratio.

Federal Process and Schedule: There are seven major steps in the planning, design, and construction of a federal beach restoration project if it is pursued as an individual project authorization from Congress. The time required to complete these steps varies from project to project, however, a minimum of five years under favorable circumstances should be expected. The steps are:

1. Problem Perception – Local citizens or local government perceive or experience a shoreline erosion problem that is beyond the ability or capacity of the local government to solve.

2. Request for Federal Action – Local government officials contact their Congressional delegation to request a "study authorization."

3. Congressional Approval for Reconnaissance Study – If receptive to the problem, Congress can direct the USACE to conduct a preliminary investigation of the beach erosion problem through a "Reconnaissance Study." Congress, through the House Committee on Transportation & Infrastructure, provides the local USACE District with $100,000, the typical cost for a Reconnaissance Study. No funds are required from the local sponsor during this phase of the project and the results are usually released in 12 to 18 months. The Reconnaissance Study results in the issuance of a "Section 905(b) Report," which determines whether there is a "federal interest" in responding to the erosion problem identified by the local community. If no federal interest is found, the community must look elsewhere for assistance; if a federal interest is identified, Congress can, through specific action in the next WRDA bill, direct the USACE to proceed with a full feasibility study.

4. Federal Feasibility Study - In the feasibility study, the USACE will assess the problem in detail, evaluate potential erosion control alternatives, and recommend the most cost-effective approach. When completed, the Feasibility Study is submitted to the USACE Chief of Engineers for review, final approval, and possible submission to Congress. Feasibility studies usually require 24 to 48 months to complete and can cost from $2 - $5 million. Typically, the non-federal sponsor (a state and/or local government) is required to pay 50 percent of the feasibility study costs.

5. Pre-construction Engineering and Design - If Congress accepts the Chief of Engineers' recommended shoreline response alternative identified in the feasibility study, the USACE will prepare a detailed project design for implementation. This phase is called Pre-construction Engineering and Design and the local project sponsor again typically pays 50 percent of the cost of this effort. This phase culminates with the detailed construction drawings and specifications for the project, often referred to as the "plans and specs."

6. Congressional Authorization - Following a successful review and coordination with the OMB, the Assistant Secretary of the Army for Civil Works will transmit the feasibility study and design report to Congress for final consideration. Congress may then choose to authorize the recommended project for construction during consideration of the next WRDA authorization, then separately appropriate the funds needed to proceed to construction.

7. Project Implementation – Once the design is complete and Congress has authorized and funded the project, construction of the project may begin. For most projects, the local sponsor will usually pay 50-65 percent of the project construction costs, as defined in the terms and conditions of the Project Cooperation Agreement (PCA) signed by the parties. The PCA describes the responsibilities of the parties and requires the local share to be deposited into an escrow account. Following completion of the project, the local sponsor is usually responsible for routine maintenance of the project, except for storm damage repair.

Currently, the federal government is expected to pay 50 percent of the project cost on *new* beach restoration projects. In certain cases, the federal share can be higher. For example, the federal share may be increased if a federal navigation project is found to contribute to the shoreline erosion problem. While federal authorization and funding for beach nourishment projects has become increasingly difficult to attain, the guarantees associated with such authorization provide the stability needed by local governments and the state to develop and implement strategies for local support. In order to take advantage of the higher federal share, authorization of new federal projects should be sought aggressively where state and local officials can make a strong case for a federal interest in shoreline protection and also for projects that can take advantage of dredged materials from federal dredging projects.

*Advantage*s: Securing additional individual federal project authorization to restore beaches in North Carolina would be advantageous for several reasons:

- Save the state and its local partners money;
- Provide long-term financial stability (up to a 50-year commitment) for the project;
- Bring federal resources, experience and expertise to the table; and,
- Provide federal funds to rebuild or repair the beach to the original design following a storm event.

If Congress were to authorize additional federal assistance for the projects in North Carolina, the state and local cost of the project could be substantially reduced. Federal shore protection projects are cooperative efforts. Absent of special circumstances, the USACE has in the past typically paid up to 65 percent of the cost of reconstructing a beach, with the non-federal sponsor paying the remaining balance. In 1999, Congress attempted to change the law to limit federal assistance to 35 percent of the cost of a new federal beach project; however, that effort was not successful. Given current budget limitations, it is likely the federal cost share contribution will be reduced in the future.

Once a federal project is secured, the local sponsor would be eligible to receive federal assistance for the next 50 years. This federal commitment provides financial stability for the state and its local partners and enhances the potential for effective long-term financial planning. The local sponsor would also receive the benefit of the expertise and experience of the USACE in beach restoration projects.

Disadvantages: There are several disadvantages that must be considered when seeking an individual authorization for federal beach restoration assistance:

- Securing federal assistance can take as long as five to ten years and requires careful attention to Congress and the bi-annual reauthorization of WRDA.

- The federal project planning process is cumbersome and can be difficult. Attention to detail is important to ensure that local priorities and objectives are fully recognized and served in the USACE's planning process. Local communities would need to commit the resources necessary to move through the project authorization process and be prepared to pay 50 percent of the cost of the federal feasibility study.

- If Congress agrees to provide federal assistance, the community could loose some autonomy and control over the project, particularly with respect to the project schedule and timing.

b) Project Authorizations Under the Continuing Authorities Program

As discussed previously, the USACE is authorized to plan, design, and construct certain types of water resource improvement projects (including beach nourishment projects) without first obtaining an individual project authorization through the "Continuing Authorities Program" (CAP). The CAP allows the USACE, in partnership with local communities, to move relatively quickly to address flooding, erosion, or navigation problems. In general, CAP projects are small scale, one-time projects that constitute a complete solution to the problem.

Each of the nine CAP authorities has eligibility requirements and funding limits. For all CAP projects, the local project partner (typically a local governmental entity) must share in the cost of the project from 20 - 35 percent depending on the CAP authority. The nine CAP authorities are:

1. *Small Flood Control Projects*. Under this section, small flood control projects may be constructed if the USACE Chief of Engineers determines that the work is advisable and the project cost does not exceed $5 million. Local flood control projects may include the construction or improvement of levees, channels, or dams. Non-structural alternatives may also be considered and include installation of flood warning systems, raising and/or flood-proofing structures, and relocating flood-prone structures.

2. *Small Navigation Projects.* The USACE may construct small-river and harbor improvement projects not specifically authorized by Congress when they will result in substantial benefits to navigation. The federal share in such projects may not exceed $4 million. The work must be intended to improve navigation and can include dredging channels, widening turning basins, and installing navigation aides.

3. *Emergency Streambank and Shoreline Protection Projects.* The USACE may spend up to $1 million in one locality during any fiscal year for the construction, repair, restoration and modification of emergency streambank and shoreline protection works. Typically, work under this section is intended to prevent erosion damage to highways, bridge approaches, public works, as well as churches, hospitals, schools, and other non-profit services endangered by erosion.

4. *Snagging and Clearing for Flood Control.* For purposes of flood control, the USACE is authorized under this provision to spend up to $500,000 on a single tributary during any fiscal year for the removal of accumulated snags and other debris and for the clearing and straightening of stream channels.

5. *Project Modifications for the Improvement of the Environment.* Under this provision, the USACE is authorized to investigate study, modify, and construct projects for the restoration of fish and wildlife habitat where the degradation is attributable to an existing federal water resource project constructed by the USACE. Projects are limited to $5 million.

6. *Small Beach Erosion Control Projects.* Under this authority, the USACE can spend up to $3 million for projects to protect or restore a public shoreline or beach. Typical projects include construction of revetments, groins, and jetties, or periodic sand replenishment. Large-scale beach restoration projects requiring frequent renourishment are not eligible under this section.

7. *Shore Damage Attributable to Federal Navigation Works.* Limited to $5 million per project, work under this authority is intended to prevent or mitigate erosion damage to public or private shorelines when the damage is the result of a federal navigation project. This authority cannot be used for shoreline damage caused by riverbank erosion or vessel-generated waves. Projects are not intended to restore shorelines to their natural or historic configuration, but only to reduce the erosion damage to a level that would have existed without the federal navigation project.

8. *Ecosystem Restoration in Connection with Dredging.* Under this authority, the USACE is authorized to undertake projects to protect, restore, or create aquatic and wetland habitats in connection with the construction or maintenance dredging of an authorized project. Congress has not established a specific cost limit for Section 204 projects, but the local share is 25 percent of the project cost.

9. *Aquatic Ecosystem Restoration.* Under this section, the USACE has the authority to spend up to $5 million per project to restore and protect aquatic ecosystems, if the project will improve the environment and is in the public interest.

Table XII-3. Continuing Authorities Program

Continuing Authorities Program (CAP Authority)	WRDA Section	Federal Dollar Limit	Cost Share Federal/Local Percentages
Flood Damage Reduction	§205	$7,000,000	65/35
Snagging & Clearing for Navigation	§107	$4,000,000	80/20
Emergency Streambank & Shoreline	§14	$1,000,000	75/25
Snagging and Clearing for Flood	§208	$500,000	65/35
Project Modification for Environmental	§1135	$5,000,000	75/25
Shore Protection/Beach Erosion	§103	$3,000,000	65/35
Mitigation for Shoreline Damage	§111	$5,000,000	65/35
Ecosystem Restoration - Dredging	§204	N/A	75/25
Aquatic Ecosystem Restoration	§206	$5,000,000	65/35

CAP Process and Schedule

Regardless of the CAP authority used, there are three general steps that must be undertaken to secure federal CAP assistance: (1) local request for assistance; (2) USACE study and acceptance of the project; and (3) project design and construction.
A USACE district may undertake a feasibility study for a CAP project upon the written request of a state or local government official and the approval of the USACE Division Office. Studies are initiated subject to the availability of funds and staff. For studies under Sections 103, 107, 111, and 205 (see Table II-3 Continuing Authorities Program), the objectives of the feasibility study are the same as those for congressionally authorized studies. The first $100,000 is a federal expense. Any study cost over $100,000 is shared 50-50 with the non-federal sponsor.

If the USACE accepts the project and agrees to proceed, the local sponsor and the federal government will sign a Project Cooperation Agreement. Planning and Design Analysis (PDA) for Section 14 and Section 208 projects are accomplished in a single phase. Other CAP projects typically go through a two-step planning and design process. PDA costs are federally financed up to $40,000. PDA costs in excess of $40,000 are shared equally with the local sponsor and are usually paid during the construction phase. Once the design is complete, the USACE will solicit proposals for project construction, select a contractor, and manage construction of the project.

Potential Revenues: Few if any of the beach restoration projects under consideration in North Carolina appear to fall within only one of the nine CAP authorities. Potential federal revenues under Section 103 (small beach erosion projects) are limited to $3 million per project and the local sponsor must contribute 35 percent of the total cost.

Advantages: Speed and convenience are the key advantages to the CAP. The CAP is clearly much faster than addressing water resource problems through individual project authorizations from Congress.

Disadvantages: Funding under the CAP is limited, projects must still meet specific eligibility requirements, and, although quicker than other federal programs, the CAP process still requires 12-18 months before a project is accepted for funding. In general, CAP projects must meet the following criteria:

- The project must stand alone. The project must be complete and not commit the USACE to further construction. This means that the project must solve a specific problem and not require a subsequent work. Beach restoration projects typically require maintenance renourishment and fail to meet this criterion.

- The project must be economically justified. That is, the benefits from the project must exceed the annual cost of project maintenance, usually expressed on an average annual basis.

- The project must be environmentally acceptable. Environmental considerations are an integral part of the planning of a CAP project. In all cases, the USACE will prepare an Environmental Assessment that must be coordinated with federal, state and local agencies, and the public. For some, more controversial, projects, the USACE may be required to prepare a full Environmental Impact Statement, a process that may require two to three years to complete.

The local sponsor for the project must be financially able to assist with the project. For example, the sponsor is required to share in the cost of the feasibility study, and provide lands, easements, and relocations as may be necessary for construction. In addition, most projects, once constructed, must be operated and maintained by the local sponsor.

Conclusion: The nature and scope of projects that the USACE can pursue under the CAP is limited. Section 103, Small Beach Erosion Projects and Section 1135 Environmental Project Modifications are two conceivable authorities that could help offset the local costs of projects under consideration in the state.

c) FEMA Disaster Assistance to Rebuild Restored Beaches

A concern with beach restoration is the possibility that the beach, once nourished, can be washed away in a hurricane. While hurricanes and storms can cause severe erosion, sand washed from a restored beach usually remains in the near-shore system. After the storm passes, federal assistance from the Federal Emergency Management Agency (FEMA) may be available to restore the beach.

According to FEMA guidelines, if a hurricane or storm impacts a beach and a federal disaster declaration is issued, local governments may be eligible for either “emergency” or “permanent” post-storm assistance to repair or restore damaged beaches. In effect, this FEMA “insurance policy” pays 75 percent of the cost to restore the beach.

Federally funded emergency sand placement projects can be done on both “natural” and “engineered” beaches when necessary to protect improved property from an immediate threat. Emergency projects are modest in scale and are intended to provide only limited, short-term protection in the immediate aftermath of a hurricane or storm. Typically, FEMA will pay to establish a berm or dune that can withstand a five-year storm.

In contrast, a restored or engineered beach is eligible for what is termed “permanent repair” if it has been “routinely maintained” prior to the disaster. A beach is considered

to be an "improved beach" if: (1) the beach was constructed by the placement of sand to a designed elevation, width, grain size, and slope; and (2) the beach has been maintained in accordance with a maintenance program involving the periodic renourishment of sand at least every five years.

Typically, FEMA will request the following from an applicant before approving assistance for permanent restoration of a beach: (1) design documents and specifications, including analysis of grain size; (2) "as-built" plans; (3) documentation of regular maintenance or nourishment of the beach; and (4) pre- and post-storm cross sections of the beach.

For example, following Hurricane Ivan in 2005, FEMA provided a $10.9 million federal grant to Escambia County, Florida to help rebuild an eight-mile stretch of Pensacola beach that had been previously nourished and maintained by the county. The total cost of the restoration project was estimated at $12 million with the state and local governments responsible for about $1 million of the beach reconstruction cost. Locally, FEMA has provided $13.7 million to Carteret County after Hurricane Ophelia to fund replacement of over 1.1 million cubic yards of sand over a 10.4-mile stretch of beach.

"Natural" beaches impacted by storms or hurricanes are not eligible for permanent restoration assistance from FEMA.

2. North Carolina Funding: Division of Water Resources Development Project Grant Program

a) Overview of the Water Resources Development Project Grant Program

North Carolina funds coastal protection projects as part of a cost-sharing grant program that supports seven types of capital-intensive, large-scale water resources projects. Table XII-4 identifies the seven authorized uses and project types, as well as the allowable cost-sharing percentages.

DWR administers the program and provides the grants to units of local government for the non-federal cost of federally-authorized water resources development projects, such as those administered by the USACE, and for water resources development projects undertaken by local governments. The state funds projects by a capital (one-time) appropriation that is normally taken from surplus funds of the preceding fiscal year and is not tied to a specific funding source such as a dedicated fee.

Table XII-4. State of North Carolina Water Resources Development Projects Authorized Uses and Cost Sharing

Eligible Categories and State Cost-Sharing Percentages of the Non-Federal Cost of Federal and Non-Federal Projects

General Navigation	80%
Recreational Navigation	25%
Water Management	66 ⅔%
Stream Restoration	66 ⅔%
Beach Protection	75%
Water-based Recreation Sites	50%
Aquatic Weed Control	50%
Feasibility or Engineering Study	50%

Source: *Division of Water Resources Grant Application, Water Resources Development Project Grant Program*

Under the program, DWR accepts applications for project funding throughout the year for two grant cycles with deadlines of July 1 and January 1.[1] The Department of Environment and Natural Resources (DENR) is required to prepare a statewide plan for water resources development projects[2] that lists projects, including coastal protection projects, proposed for a six-year period and is required to be submitted to the Governor by July 1 of each year. The plan gives the Governor and the State Budget Director a long-range forecast of state funding needs for water resources projects that the Governor can then use to select and recommend projects, if any, for funding in the biennial budget.

b) Analysis of DWR Project Funding

Based on a summary review of past DWR project funding levels, several observations can be made about both overall programmatic and beach protection funds. First, DWR project funding is significant in magnitude and scope. From fiscal years 2001-2002 to 2008-2009, DWR funded 36 federal projects and approximately 350 non-federal projects at a total cost of $175.8 million.

Second, project funding has been relatively stable but appears to be decreasing due to the recent national economic downturn. Funding totaled $32.4 million in fiscal year 2001-02, decreased over the next three fiscal years, and leveled off at around $20 million in

[1] General Statutes 143-215.70-.73
[2] General Statute 143-215.73

fiscal year 2005-06 through fiscal year 2007-08. However, funding fell to less than $5 million in fiscal year 2008-09 due to the significant national economic downturn.

Third, the variety, cost, and scale of the projects supported by the fund vary greatly. Many projects receive a single appropriation, while others, like dredging and waterway maintenance efforts, may receive funding periodically over the life of the project. Projects range in cumulative costs from $25,000 for a small, one-time drainage project to $69.1 million for the Wilmington Harbor Deepening project, which was funded over multiple years. Figure XII-2 demonstrates that two classes of projects – those associated with Wilmington Harbor and with beach protection – have comprised 52 percent of total project funding over the past eight fiscal years.

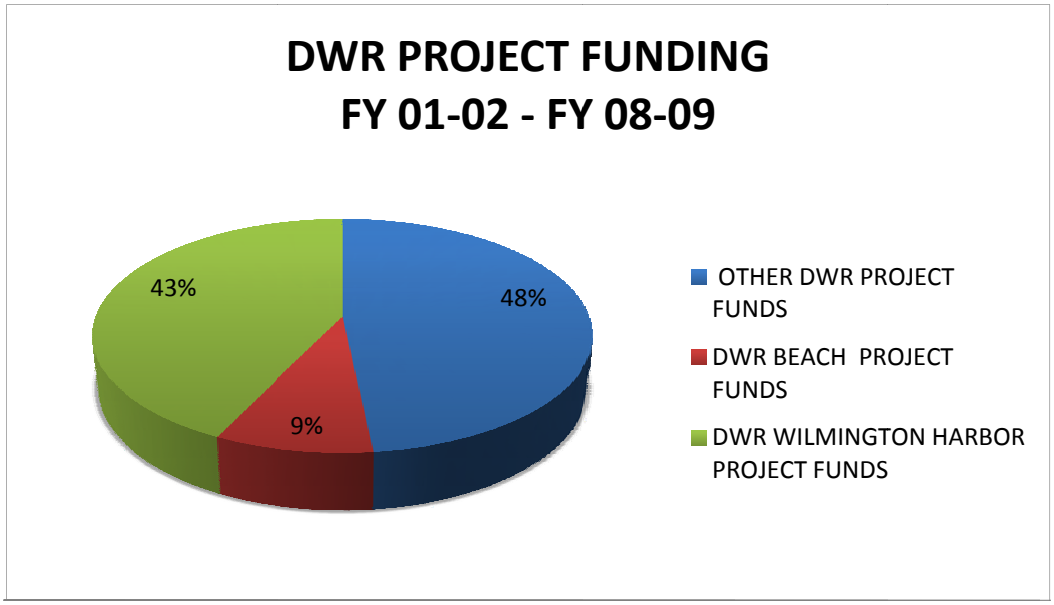

Figure XII-2. DWR Project Funding

Finally, beach nourishment project funding has fluctuated from year to year, ranging from $3.3 million in fiscal year 2001-02 to $596,000 in fiscal year 2004-05. In total, from fiscal year 2001-02 to fiscal year 2008-09, DWR's Water Resources Development Project Grant Program has provided $15.46 million in cost-sharing grants for beach nourishments projects.

Figure XII-3 illustrates many of the observations discussed above including the fluctuations in funding over time, the relative scale of the Wilmington Harbor projects in relation to the overall project fund and coastal protection efforts, and the variability in beach nourishment funding from year to year.

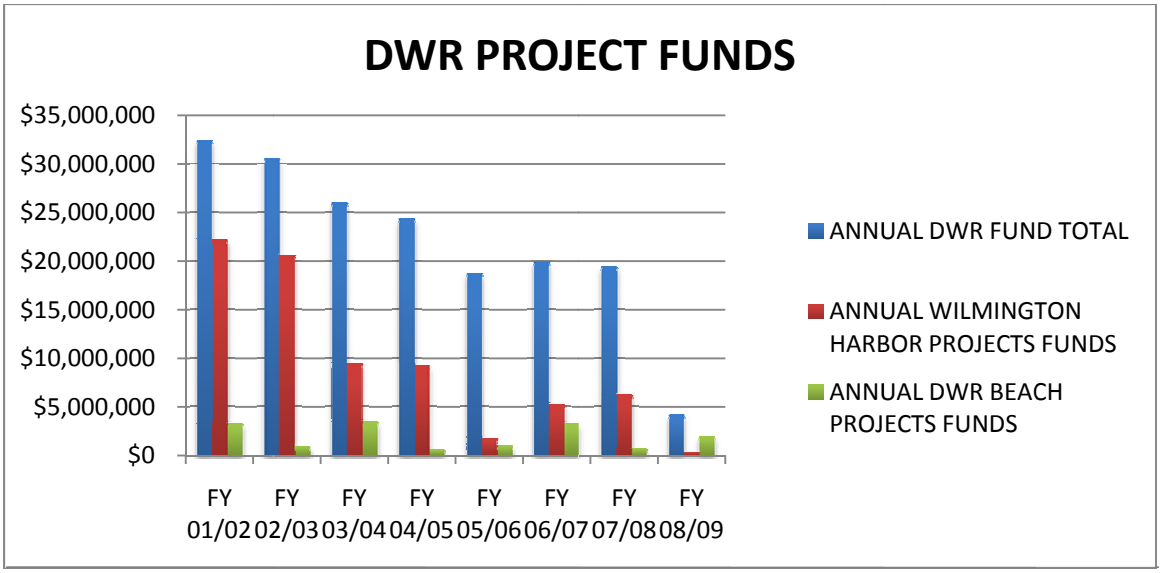

Figure XII-3. DWR Project Funds

c) DWR Program Strengths and Successes

DWR project funding has been relatively stable and sizeable. While initially showing a decline spread over several years, project funding was level from fiscal year 2006-06 through fiscal year 2007-08. Only during the recent significant economic downturn has funding dropped dramatically. The overall size of the fund has been large enough to support significant capital investments. Prior to the economic downturn characterized by a fund budget of $4.2 million in fiscal year 2008-09, the fund's budget ranged from $18.7 million to $32.4 million.

DWR funds from fiscal year 2001-02 to fiscal year 2008-09 have totaled $175.8 million and supported a total of approximately 386 federal and non-federal projects. Because the fund usually serves to match local and federal dollars, the fund has leveraged more than $300 million in additional project support.

The diversity of DWR projects under the seven authorized uses allows DWR to fund efforts throughout the state and meet a wide variety of water resources needs. The geographic distribution and varying project sizes allows communities and other organizations to benefit from DWR funding and helps build statewide support for DWR efforts.

d) DWR Program Limitations

DWR fund managers face the difficult task of sorting and ranking the competing demands and disparate needs that arise among the seven eligible project categories. For example, funding an inlet improvement, shoreline management or stream restoration project may be difficult within the same grant program that also supports large and economically significant projects such as channel maintenance and improvements for the Port of Wilmington.

The DWR cost-sharing grant program is primarily intended to help local project sponsors where a federal project is in place. According to its 2008 report:

> *The Division continued to work closely with the Wilmington District, Corps of Engineers on the final phases of the Wilmington Harbor Deepening Project. During 2008, work continued on the purchase of 700+ acres of mitigation lands, completing evaluations of the best methods to provide fish passage at the three locks and dams on the Cape Fear River, and relocation of an existing turning basin on the Northeast Cape Fear River. The Division provided $15,300,000 in State cost-sharing funds for 13 Corps of Engineers projects and 85 state-local projects in 2008. A portion of these funds, matched by local government project beneficiaries, paid the Corps of Engineers to perform maintenance of four Atlantic Intracoastal Waterway Inlet Crossing channels. The value of the 35 grants issued in 2008 to local government entities through the Divisions Water Resources Development Grant program totaled $3,900,000 that will be matched by approximately $1,300,000 in local funds.*

For beach restoration projects, the federal government has typically paid 65 percent of the cost, leaving the local sponsor to come up with the 35 percent non-federal share. According to its published program guidance, the DWR grant program will pay for 75 percent of the non-federal contribution, or 26.25 percent of the total project. The local sponsor is left to cover the remaining 25 percent of the non-federal costs or 8.75 percent of the total costs.[1]

Because the cost of non-federal beach protection projects are usually quite high in comparison to other types of non-federal water resources development projects, DWR has typically provided only 30 percent cost-sharing grants, rather than the maximum 75 percent, for non-federal beach protection projects, leaving local communities to fund the remaining costs.

[1] 35 percent non-federal contribution *x* 75 percent state grant = 26.25 percent of total project cost provided by the state. 35 percent nonfederal contribution x 25 percent match required under state grant program = 8.75 percent of total project costs provided by local governments

This approach leads to a significant disparity at the local level between federally sponsored and non-federally sponsored beach nourishment projects.

For example, consider the following two scenarios:

- Community A undertakes a federally-sponsored $10 million beach nourishment project. Under the federal Water Resources Development Act, the federal government would provide $6.5 million (65 percent), and under the DWR guidelines, the state would provide $2.625 million (75 percent of the non-federal share). The local community would be responsible for the remaining balance of 8.75 percent or $875,000.

- Community B undertakes a $10 million non-federal beach nourishment project. Without federal support, DWR provides only 30 percent of the total project costs or $3 million. Again, the local community would be responsible for the remaining balance ($7 million), or 70 percent of the project cost.

In both scenarios, the state is providing approximately the same percentage of the non-federal share, but because Community B has no federal support, it bears a significantly greater local burden. The disparity between communities that have received federal funding and those that have not speaks to a need for the state to design a funding mechanism that benefits both types of communities in a more equitable manner.

e) DWR Program Assessment

Like almost all on-going water resources projects, inlet and shoreline managers, particularly those contemplating recurring beach nourishment projects, require a level of funding certainty in order to effectively develop and implement long-term plans. The lack of a predictable state contribution can hinder local community efforts to advance shoreline projects. At the local level, beach nourishment projects are often financed, in part, with new property taxes. Local financial planning has often led to intense and contentious public debates and failed elections. While DWR has been successful partnering with local communities, particularly where a federal project is in place, the state's capacity to assist local communities in the future remains uncertain if the number and cost of beach and inlet management projects increase to levels exceeding those of the entire program.

With a potential decline in federal participation, the state and local communities are likely to share a greater percentage of these projects in the future. Without a steady and predictable state contribution, local communities may find it increasingly difficult to plan for and implement shoreline management projects.

f) Previous Shoreline Project Funding Legislation

During the 1999 - 2000 biennium, the North Carolina Legislative Research Commission formed the Committee on Coastal Beach Movement, Beach Renourishment, and Storm Mitigation. The charge of the committee was to study and make recommendations to the General Assembly regarding the complex coastal erosion issues facing North Carolina.[1] The committee's 2001 report (Appendix H) to the General Assembly, included a recommendation that the state create a dedicated fund to finance beach restoration projects in North Carolina.

In reaching this recommendation, the committee conducted seven hearings and took extensive testimony from a variety of experts on coastal processes, engineering, and economics. The committee concluded that the state should "assist local governments with assessments of beach erosion problems and the development and implementation of strategies to preserve and restore the beach," and also serve as a coordinator for "the activities and resources of federal, state, and local governments in the process of developing beach preservation and restoration projects."

The committee made three specific findings that remain relevant today:

1. That there is a serious need to develop a plan and strategy to preserve and restore the beaches of the state. A plan that would identify and characterize the erosion problems of the coastal communities and assess the availability of sand resources for beach restoration. Priorities for state funding of beach preservation and beach restoration projects need to be established and provision made for adequate public access to the beaches for all the citizens of the state.

2. That tourism is an important industry in North Carolina and is of great economic benefit statewide with tremendous growth potential. Both the coast and the mountains are popular tourist destinations with the tourism industry providing crucial economic support and tax bases for local governments of the coastal and mountain regions.

3. That a timely and thorough economic study is needed that assesses the role and value of the state's beaches with regard to local, regional, and state economies and that provides a cost benefits analysis of current and anticipated beach preservation and restoration projects.

[1] The study of Coastal Beach Movement, Beach Nourishment and Storm Mitigation was authorized by Part II, Section 2.1 (6)(e) of Chapter 395 of the 1999 Session Laws (Regular Session, 1999).

The committee's findings spurred the General Assembly to consider the North Carolina Beach Preservation and Restoration Act in 2001 and again in 2003.[1] While it did not pass in either session, the bill's "declarations" are noteworthy and still instructive today:

- Preservation of the beach enhances the environment of the coastal areas and barrier islands of the State, providing habitat for nesting sea turtles and supporting a variety of bird and animal life. Preservation of the beach enhances and supports the tourism industry in the State, in particular the local economies of the coastal region. Preservation of the beach provides significant protection from storm and hurricane damage to property and infrastructure, particularly from storm surge. Preservation of the beach minimizes regulatory conflicts, loss of property value and local tax base, and ensures the long-term availability of public access to the beach. Therefore, in accordance with the policy and import of preserving the State's beaches, the General Assembly declares that the beaches of the State, and the public's right to access the beaches, must be protected.

- The General Assembly recognizes that the beaches of the State are part of a dynamic coastal system and are constantly subject to the reshaping forces of wind, waves, and sea level rise. These natural forces have caused, and will continue to cause, serious erosion of the beaches of the State resulting in a grave threat to public property, private property, public infrastructure, the regional economy, public access, and the public's health, safety, and welfare. The General Assembly therefore declares that, in order to preserve the public's interest in the beaches of the State, it is necessary to establish policies and programs that "provide for the preservation and restoration of the State's beaches."

The Act called for the creation of the North Carolina Beach Preservation and Restoration Fund and sought to authorize an investment of general revenues, beginning with $4 million in 2004-2005 and peaking at $12 million in 2006-2007 and beyond. Had it passed, local governments could have applied for and received state support for 90 percent of the cost of a beach nourishment project.

These and other past legislative actions such as inclusion of the Beach and Inlet Management Plan (BIMP) funding in the 2000 Appropriations Act (HB 1840, Session Law 2000-67) set the stage for revisiting previous attempts to create a dedicated state fund for shoreline management projects. In the provisions for the BIMP, the General Assembly found that "[t]he balance between economic development and quality of life in North Carolina has made our coast one of the most desirable along the Atlantic Seaboard" and that the state's beaches are "vital to the state's tourism industry."

[1] HB 418 (2001) and HB 1165 (2003)

The General Assembly also declared that, "[b]each erosion can threaten the economic viability of coastal communities and can significantly affect state tax revenues," and that it would be "prudent to take precautions such as beach nourishment that protect and conserve the State's beaches and reduce property damage and flooding." While recognizing that beach renourishment is an effective "erosion control method," the General Assembly also found that, "relocation of structures threatened by erosion is in the public interest" and sometimes is "the best available remedy for the property owner."

With respect to the issue of local involvement in project funding, the General Assembly found that, "because local beach communities derive the primary benefits from the presence of adequate beaches, a program of beach management and restoration should not be accomplished without a commitment of local funds to combat the problem of beach erosion."

3. Case Studies: Florida & Texas

Both Florida and Texas have active erosion response programs and a discussion of the each program's key elements is useful in putting North Carolina's efforts into perspective.

The Florida Legislature recognized the seriousness of the state's coastal erosion issues in 1986, and set up guidelines for local communities to participate in the Florida Coastal Erosion Control Program. Over the years, Florida has been able to provide consistent funding to the program and has given counties significant local authority to provide funding for beach restoration and preservation programs.

Much like North Carolina, Texas has struggled to secure a consistent level of funding from the Legislature, which has hampered program development and scope. Rather than dedicating or defining an income stream to support state matching requirements, local governments in Texas instead have relied heavily on general budgets to fund the projects. In addition, Texas' program is not limited to beach nourishment projects, but is also used to address erosion issues within the state's bays and estuaries and along the Gulf Intracoastal Waterway. Texas has yet to secure a federally authorized Water Resources Development Act beach protection project, which in the wake of Hurricane Ike, may be indicative of the uncertainty of waiting for federal authorizations and the problems that North Carolina may have in securing future federal funding.

a) Florida

(1) State Contributions

Recognizing the importance of the state's beaches, the Florida Legislature adopted a program in 1986 for protecting and restoring the beaches through comprehensive beach management planning. Under the program, the Department of Environmental

Protection's Bureau of Beaches & Coastal Systems evaluates beach erosion problems throughout the state seeking viable solutions. The primary vehicle for implementing the beach management planning recommendations is the Florida Beach Erosion Control Program, which was established in 1964 for the purpose of working with local and federal governmental entities to achieve the protection, preservation and restoration of the coastal sandy beach resources of the state.

Florida established a dedicated fund to provide financial assistance in an amount up to 50 percent of the non-federal project costs. The state's share is available to counties and municipal governments, community development districts, or special taxing districts for shore protection and preservation activities located on the Gulf of Mexico, Atlantic Ocean, or Straits of Florida.

Eligible for funding are beach restoration and nourishment activities, project design and engineering studies, environmental studies and monitoring, inlet management planning, inlet sand transfer, dune restoration and protection activities, and other beach erosion control projects.[1] The Florida Beach Erosion Control Program has been a primary source of funding to local governments for beach erosion control and preservation projects. Through fiscal year 2006, more than $582 million has been appropriated by the Legislature for beach erosion control activities.

Process and Schedule: The process for applying and awarding funds through the Beach Erosion Control Program is codified in Chapter 161.001 et seq., Florida Statutes, and the Florida Department of Environmental Protection (FDEP) program rules. [2]
There are five general steps in the process:

1. Application for FDEP Erosion Control Program Funds
2. FDEP Staff Review
3. Inclusion in FDEP Strategic Budget Plan
4. Legislative Action
5. Final FDEP Action and Execution of the Project Agreement

The FDEP Secretary prepares a prioritized list of all recommended applications evaluated by the staff for the upcoming budget year. The total funding available from the Legislature for these projects is generally limited to $30 million per year and any ranked projects that push the total budget over $30 million are placed on an "Alternative Project List." Once reviewed and approved, the list of prioritized applications is submitted to the Legislature as part of the regular legislative budget process for FDEP. The Legislature will then receive an explanation of the applicant's request, and will review the budget request and the results of the Department's evaluation of the project application in

[1] Section 161.101, Florida Statutes, authorizes the program.
[2] See Beach Erosion Control Assistance Program 62B-36, Florida Administrative Code, 62B-36.006, FAC, Project Approval Process.

making a decision to accept, reject, or modify the project list provided by the Secretary. Approval of an application by the Legislature constitutes a commitment of state funds for the project and is treated as a mandate to FDEP to continue the formal project review process, pursuant to Section 62B-36.009 of the Florida Administrative Code. Once state funds are committed, the application is returned to the applicant for additional information, including updated and detailed cost estimates, environmental permitting, and the resolution of any recognized deficiencies that could not be resolved prior to legislative funding.

Upon review and approval of a completed and updated application, the FDEP Secretary prepares a project agreement for execution with the local sponsor. The execution of the project agreement by FDEP and the local community is the final step in the funding process. The FDEP funding process takes approximately 15 months to complete from the date the application is submitted.

State financial assistance for local beach restoration projects is generally limited to a maximum of 50 percent of the total project cost. As described in the FDEP guidelines for the Beach Erosion Control Program, the maximum state financial participation for beach restoration is limited to:

(a) 100 percent of all eligible project costs for state sponsored projects regardless of public access limitations;

(b) 50 percent of costs related to the design, construction and monitoring of dune and/or beach restoration and nourishment projects;

(c) 50 percent of feasibility studies regardless of public access limitations;

(d) 50 percent of construction and related costs for initial restoration or other related mitigation of critically eroded shoreline downdrift of improved, altered or modified inlets including capital improvements related to bypassing of sand regardless of access limitations where the erosion was caused by public improvement, modification or alteration of the inlet;

(e) 50 percent of incremental cost of bypassing activities to place sand on downdrift beach or in approved nearshore area;

(f) 50 percent of the cost of demonstration or experimental projects co-sponsored by the Department and local government.

Advantages: The FDEP Beach Erosion Control Program is intended to provide assistance to local governments and communities for beach restoration activities. A successful application for state assistance through this program offers several important advantages:

- State contributions range from 0 - 50 percent of the eligible project costs, based upon the extent of public access to the project area;
- State provides data on erosion rates, trends, and sand sources to facilitate the design of the beach restoration project; and
- Provision of long-term funding stability once the initial restoration project is complete.

Disadvantages: In assessing the implementation of the FDEP Beach Erosion Control Program, there appears to be no apparent disadvantages that outweigh participation in the program. For full state funding, the program does impose certain requirements on the local community; however, these requirements appear manageable or acceptable for most local governments. These requirements include:

- To maximize the state share, adequate public access to the beach must be provided in the project area (limited access may reduce or eliminate available state funds for a particular project and local landowners are advised of these limits);
- Specific project timelines geared to the state budget process must be developed and can affect project scheduling; and
- The local community must develop and present a ten-year plan and budget to restore and maintain project area beaches.

Conclusion: The FDEP Beach Erosion Control Program provides a stable and predictable source of revenue for the restoration and maintenance of Florida beaches. The funding formula encourages local governments and beachfront landowners to improve public access to the beach to increase the state funds available for the projects.

(2) Local Contributions in the Florida Program

As outlined in the previous section, participation in the FDEP Beach Erosion Control Program requires a commitment of local funds. At their discretion, Florida counties may contribute to local beach restoration projects by any number of means, including but not limited to: (1) dedication of county general revenue; (2) dedication of Tourist Development Tax revenues; or (3) special assessments of county property located within a Municipal Services Benefit Unit (MSBU).

(a) Tourist Development Taxes or "Bed Taxes"

Counties are authorized to levy five separate Tourist Development Taxes (also called "Bed Taxes" that are comparable to the North Carolina "Occupancy Tax") on transient rental transactions.[1] Depending on which levy is imposed, the tax may be authorized by vote of the governing body or by referendum.

Bed tax rates vary by county depending on a county's eligibility to levy particular taxes; however, the absolute maximum rate is six percent. While the revenues may be used for capital construction of tourist-related facilities, tourist promotion, and beach and shoreline maintenance, the authorized uses vary according to the particular bed tax levy chosen by the county.

Authorization to Levy. Any county may levy and impose a tourist development tax within its boundaries through adoption of an authorizing ordinance. All Florida counties have the discretion to impose a "base bed tax" of either one or two percent. The tourist development council, prior the enactment of the ordinance, must prepare and submit to the county's governing body for its approval a plan for tourist development.

A county may elect to levy and impose the "bed tax" in a sub-county area or special district. However, if a county elects to proceed on a sub-county or special district basis, the district must embrace all or a significant contiguous portion of the county. Counties are required to assist the state Department of Revenue in identifying the rental units in the district that are subject to the tax.

In addition to a maximum two percent base tax, a county's governing body may levy an additional one percent tax on transient rental transactions. This additional percent levy requires a county ordinance or public approval by a referendum and can only used for the purposes specifically authorized including "beach park facilities or beach improvement, maintenance, renourishment, restoration, and erosion control, including shoreline protection, enhancement, cleanup."

Advantages: Use of the Tourist Development or Bed Tax to fund some portion of the local share for beach restoration projects appears advantageous for several reasons. First, bed taxes generally reflect tourist visits to the beachfront county and the beneficiaries of a new beach contribute to the cost of the project. Second, bed taxes are clearly a lawful and authorized mechanism to fund beach restoration projects. As such, the FDEP has been able to integrate bed taxes into the state Beach Erosion Control Program as a recognized source for local matching funds. Third, the use of bed taxes to help finance the project can diversify a local community's project funding strategy and reduce the reliance on other options, such as the creation of a special benefit unit.

[1] Section 125.0104, *Florida Statutes*

Disadvantages: There do not appear to be any significant disadvantages to incorporating bed taxes into the local funding stream for beach restoration projects in Florida. Any disadvantages are dependent upon the specific structure of the current distribution of bed tax revenues and whether increasing funding for beach restoration projects from existing receipts will conflict with other local priorities.

Conclusion: Tourist Development Taxes or "bed taxes" are an effective means of raising the local matching funds necessary for beach restoration projects in Florida. This mechanism has been widely employed and has been accepted by the state as local match for the FDEP Beach Erosion Control Program.

(b) Florida Municipal Services Benefit Units

Under Florida law, coastal counties can impose and collect a special assessment on properties that will benefit from the beach restoration projects through the creation of a Municipal Services Benefit Unit (MSBU). Under a MSBU a county is authorized to:

> *"Establish, and subsequently merge or abolish those created hereunder, municipal service taxing or benefit units for any part or all of the unincorporated area of the county, within which may be provided fire protection; law enforcement; beach erosion control; recreation service and facilities . . . and other essential facilities and municipal services from funds derived from service charges, special assessments, or taxes within such unit only." (Emphasis added).* [1]

> *"Levy and collect taxes, both for county purposes and for the providing of municipal services within any municipal service taxing unit, and special assessments . . . which power shall be exercised in such manner, and subject to such limitations, as may be provided by general law."*[2]

An MSBU is one of several authorized means to raise funds for public improvement projects (including beach nourishment) or to provide local services such as fire protection, water and waste, water, and garbage collection. There are four general characteristics of an MSBU:

1. An MSBU is created and managed by the governing body of the county, the Board of County Commissioners. With the consent of the governing body, a public referendum can be used to create an MSBU, but such an approach is not required;

2. The boundaries of a municipal service taxing or benefit unit may include all or part of the boundaries of a county or municipality;

[1] §125.01(1)(q), *FS*
[2] §125.01(1)(r), *FS*

3. The special assessment made within the MSBU boundary need not be uniform but must be reasonably related to the benefit that accrues to the property from the project constructed or the service provided; and,

4. The county has broad discretion in identifying the benefits of a project and in developing a methodology to apportion the benefits (and thus the costs) among the properties in the MSBU.

There are two basic requirements that must be met to assure the validity of an MSBU special assessment: (1) the property assessed must derive a ***special benefit*** from the project or service provided; and, (2) the assessment must be fairly and ***reasonably apportioned*** among the properties that receive the special benefit.

A special assessment is an enforced contribution from the property owner imposed on the theory that the property assessed derives some special or peculiar benefit in the enhancement of value as a result of the improvement or service that is made with the proceeds. The assessment must not be in excess of the proportional benefits as compared to other assessments on other lots and tracts affected by the improvement. However, the manner of the assessment is immaterial and may vary within the benefit unit provided that the amount of the assessment is not in excess of the proportional benefits as compared to other assessments on other tracts.

In short, Florida counties can employ an MSBU to help fund beach projects and have wide discretion to determine the form and characteristics of the special assessment. In general, the benefits typically evaluated when an MSBU is used to fund a beach restoration project fall into two categories: Storm Risk Reduction Benefits and Secondary Benefits, such as recreation. A wider, more stable beach will generally reduce the risk of storm damage to all properties along an eroding beachfront. Parcels located on the beachfront or that are greater in area are generally susceptible to greater risk of storm damage, therefore, storm reduction benefits are usually limited to beachfront lots.

Beach restoration projects also generate “secondary benefits” such as improved recreational opportunities and environmental conditions, increased economic activity in the region, and enhanced property values. Beach restoration projects also will typically create or improve dune habitat, improve beach aesthetics, and create or improve sea turtle nesting habitat. While generally understood, secondary benefits are difficult to quantify and allocate among properties in a benefit unit. In many cases reviewed for this report, the MSBU assessments for secondary benefits were usually based on the premise that secondary or recreational benefits are shared equally among those in the benefit unit.

There is no specific statutory or legal limit on the potential revenue that can be raised from an MSBU, so long as the amount generally reflects the funds necessary to carry out the purpose for which the MSBU has been established. Thus, the potential revenue that can be generated from this funding option depends entirely upon the judgment and

decisions of the Board of County Commissioners, the revenue needed to carry out the selected project, and, to the extent that a referendum is used, the willingness of the individuals within the benefit unit to pay the assessment.

An MSBU is typically used to create a long-term revenue stream. For capital construction projects, such as beach nourishment, county bonds or some other form of borrowing instrument is usually required to pay for the initial construction. The bonds or debt would then be retired over time using the revenue generated by the MSBU assessments.

Advantages: There are four principal advantages to using an MSBU to meet the local funding requirements for beach restoration projects in Florida:

1. MSBUs are an established and legally recognized method to raise local funds for beach restoration projects;
2. MSBUs distribute the local costs of the project among the beneficiaries so that those that benefit contribute to the project;
3. MSBUs can generate sufficient revenue for a beach and dune restoration projects; and,
4. MSBUs are flexible and provide counties with wide discretion to tailor this funding mechanism to meet the specific facts and circumstances in each community.

Disadvantages: While clearly an appropriate option for funding beach restoration projects, an MSBU can be complex and time consuming to implement. The county is required to establish an MSBU boundary, assess the benefits of the project, fairly and equitably apportion those costs among the beneficiaries, and adopt an ordinance establishing the MSBU. The county may choose to require that a referendum be conducted before the MSBU is established which could require more than a year to complete. Because of the wide discretion available in the creation of an MSBU, landowners can explore other apportionment methodologies and raise challenges to the MSBU either during or after its creation.

The total time necessary to establish an MSBU cannot be predicted accurately. The diversity of interests within the potential benefit unit could lead to protracted discussions over the MSBU boundary itself and the proper apportionment of benefits and project costs within the unit. If a full economic study of project benefits were required to resolve benefit apportionment issues, this study alone could require six to twelve months to be completed. Finally, to the extent that the MSBU formulation raises new or novel legal issues, adequate time must be allotted to resolve the issues at the county level or seek an advisory legal opinion from the Office of the Florida Attorney General.

Conclusion: As required by law, and consistent with the practice in other Florida communities, an MSBU is an acceptable and feasible means to raise the local match for beach restoration projects in Florida. If an MSBU is created, the cost of the project must be apportioned among the beneficiaries in a fair and equitable manner based on the benefits of the project to the property in the unit.

b) Texas

(1) Texas Coastal Erosion Protection and Response Act and Other Funding Mechanisms

To address coastal erosion problems, in 1999 the Texas Legislature established and funded the Coastal Erosion Planning and Response Act (CEPRA) within the state's General Land Office (GLO).[1] CEPRA funds implementation of erosion control projects, feasibility studies and engineering, permitting, and scientific studies that support erosion response planning in critical erosion areas.

In order to qualify for CEPRA project funding, the state's Land Commissioner must find that, within the project area, there is a threat to:

- Public health, safety, or welfare;
- Public beach use or access;
- General recreation;
- Traffic safety;
- Public property or infrastructure;
- Private commercial or residential property; or
- An area of regional or national importance.[2]

CEPRA projects generally require a "qualified project partner" to provide a local contribution to the project. However, the state's Land Commissioner may undertake one large-scale beach nourishment project without requiring a match as long as that project does not exceed one-third of the funds appropriate to the CEPRA program.

In general, qualified project partner must pay:

- not less than 25 percent of the shared project cost if the project is a beach nourishment project on a public beach or bay shore (a sandy beach occurring within a bay system); and
- not less than 40 percent of the shared project cost if the project is any other coastal erosion response study or project, including a marsh restoration project or bay shoreline protection project other than a bay beach nourishment project.

[1] Texas Natural Resources Code, Subchapter H - Coastal Erosion, §§33.601-33.663.
[2] Texas Natural Resource Code §33.601(4)

Generally, feasibility studies and engineering, permitting, and scientific studies that support erosion response planning in critical erosion areas are paid for by the GLO, not the local sponsor. However, there have been limited cases in which local partners have undertaken such efforts.

CEPRA lacks a dedicated fund and depends on the Texas Legislature to provide a biennial appropriation. CEPRA's funding source has changed three times to include state general revenue, a transfer of money from a dedicated fund designed to support the state's oil spill response, and, most recently, an agreement with the state's parks and wildlife department to support the program from that agency's dedicated fund derived from sales taxes on sporting goods. However, the program has funded 222 projects with $61.92 million in revenue matched by $70.25 million in partnership funding. Table XII-5 illustrates the number of projects per year, as well as match, and the requested amount of funding.

Table XII-5. CEPRA Appropriations by Biennium[1]

Biennium	State Funding (millions of $)	Matching Funds (millions of $)	Number of Projects Funded	Number of Projects Requested	Funding Requests (millions of $)
2000 - 2001	15.00	10.03	42	63	129.17
2002 - 2003	15.00	9.38	53	64	108.22
2004 - 2006	7.32	14.46	20	77	36.49
2006 – 2007	7.30	8.50	49	81	111.78
2008 – 2009	17.30	27.86	58	84	58.57
Total	61.92	70.25	222	369	443.72

State policy makers continue to refine the program and have noted program strengths and shortcomings over the years. Three concerns dominate: 1) funding does not meet demand; 2) funding levels vary by biennium making it difficult to implement complex multiyear projects; and 3) the lack of a dedicated source of funding increases uncertainty among program supporters and communities implementing projects and providing matching funds.

One of the chief shortcomings of CEPRA, the lack of a dedicated funding source, may be addressed in the current legislative session. Under current Texas law, the state collects 1 1/3 cents per barrel of imported oil for the state's coastal protection fund, which is generally used for oil spill response. The proposed legislation would raise the per barrel fee to 3.5 cents and allocate the additional funds for erosion response. While the legislation provides the statutory basis for the new dedicated fund, it would have to also appropriate the extra revenue into the fund. The extensive damage caused by Hurricane Ike, which threatened to undermine the Galveston Seawall, and also destroyed most of

[1] *Coastal Erosion and Response Act: Report to the 81st Texas Legislature*, Texas General Land Office, January 9, 2009

the structures on the Bolivar Peninsula, (an area with historically extremely high erosion rates), may provide additional impetus to the passage of the legislation.

Texas uses two other programs to support erosion response – grant funding from the state's Coastal Management Program (CMP) and funds from the federal Coastal Impact Assistance Program (CIAP).

Texas allocates approximately $1.8 million per year in funds received from the National Oceanic Atmospheric Administration (NOAA) for the state's CMP to a competitive grant program open to state agencies, local governments, and nonprofit organizations for projects including habitat acquisition and restoration, beach access facilities, scientific studies. While NOAA requirements prevent the use of funding for on-the-ground implementation of erosion control projects, throughout the years the CMP has provided grants to academic institutions to support research that assists in the management of erosion on Gulf beaches and within the state's bays and estuaries.

A more recent and significant development is the federal government's implementation of CIAP. The program is funded with federal royalties generated from offshore oil and gas leases in federal waters. Alabama, Mississippi, Louisiana, Texas, California, and Alaska receive funding from the program.

CIAP is intended to assist those coastal states and coastal political subdivisions within those states that have either supported or been impacted in some measure, directly or indirectly, from Outer Continental Shelf (OCS) oil and gas exploration and development activities.[1] Many of these impacts are felt onshore through increased need for production and support facilities, potential air and water quality issues, and increasing demand for infrastructure and social systems for an influx of workers associated with OCS activities.

The allocation to the eligible states varies from year to year and is driven by a formula based on proximity to leases, oil and gas production facilities, miles of coastline, and population. Texas is expected to receive between $45 million to $48 million per year in funding. Texas coastal counties receive 35 percent of the allocated funds, while the state receives the remaining portion. The state administers its portion of the CIAP funding in the form of a competitive grant program.

In federal fiscal year 2007, coastal erosion projects, primarily on the Upper Texas Coast, received approximately 26 percent of funding administered by the state, and dominated the funding plans submitted by Brazoria and Galveston counties.

Advantages: While funding has varied over time, CEPRA has been a fairly stable source of funding, providing resources to a significant number of projects coast-wide.

[1] Section 384 of the Energy Policy Act of 2005 amended the Outer Continental Shelf Lands Act (43 U.S.C. 1356a)

Additionally, the program has been successful in obtaining local matching funds that have significantly leveraged state resources. The state's use of competitive CIAP program grants, often with the counties adding their CIAP allocations, holds the possibility of undertaking large erosion response efforts on the upper Texas Coast. The occasional use of CMP funds, again, leverages contributions in the form of grant match, and has helped bolster scientific and other research efforts that support the state's coastal erosion programs.

Disadvantages: Given the extent of the coastal erosion problems, both along the Gulf shores and in the bays and other coastal waterways, CEPRA funding may be inadequate to fully address coastal erosion in Texas. Also, given the coast-wide need, CEPRA funds are disbursed among many projects, likely hampering the large and costly coastal erosion response efforts needed to maintain the state's Gulf beaches. While CIAP funding holds the promise of funding large, multimillion dollar erosion response efforts, the program is statutorily required to serve multiple purposes (wetland restoration, coastal education, etc.) and also must meet the needs of the many stakeholders found along the Texas coast.

(2) Texas Local Funding

Much of the local government funding that serves as a match for both CEPRA and the CMP programs comes from general operating budgets. In a few cases, park boards and other unique taxing entities are able to provide matching funds for projects. For example, the City of Galveston's Park Board of Trustees has the ability to tax and use the funds to pay for erosion control and beach projects. The Parks Board partnered with GLO/CEPRA in 2009 to conduct the post-Hurricane Ike Galveston Seawall beach nourishment project using local tax funds as their portion of the match.

In some cases, navigation districts, which are independent governmental entities in Texas, have a variety of funds available to them, ranging from boat dockage fees to property taxes, which can be used to provide local match. The state's two estuary programs – the Galveston Bay Estuary Program and the Coastal Bend Bays & Estuary Program (Corpus Christi area) – have been able to work with state and federal natural resource specialists to leverage additional funding for bayside erosion control efforts.

Advantages: Local governments and other entities participating in CEPRA have great flexibility in how they match program funds.

Disadvantages: Local governments and other entities (navigation districts, ports, etc.) have been unwilling to commit long-term funding to beach nourishment which can limit the scale of nourishment projects.

4. Local Government Project Funding Approaches in North Carolina

In reviewing local funding for beach nourishment in North Carolina, two counties (New Hanover and Carteret) feature elements that are essential to long-term success – local control through a coordinating body, such as a beach commission; and a dedicated funding source in the form of taxes to support nourishment efforts. Having both the statutory authority and a sizeable beach fund backed by a tax levy or set-aside, allows the counties to work with state and federal officials as equal partners during the planning and implementation of beach nourishment projects .

a) New Hanover County

The 16-member Wilmington-New Hanover Ports, Waterways and Beach Commission was formed in 1974 by the County Commissioners and other sponsors. The commission's purpose is to investigate, initiate and support general water resources development including:

1. Port improvements and growth of the shipping industry;
2. Beach nourishment and conservation; and
3. Mitigate declines in water quality.

Commission projects are supported by a three percent local occupancy tax. Currently, the commission has a sand reserve fund of approximately $15 million that is set aside for beach nourishment projects.

The commission is supporting three federally authorized beach nourishment projects – the Wrightsville Beach Renourishment project, the Carolina Beach Renourishment project, and the Carolina Beach Area South (Kure Beach) project.

With the state providing 75 percent of the funds for the non-federal cost share of a federal project under DWR's Water Resources Development Project Grant Program, the Wilmington-New Hanover Ports, Waterways and Beach Commission is required to provide only 8.75 percent of total project costs.

One federal project, the Carolina Beach Renourishment project, is nearing the end of its 50-year federal authorization and no additional federal funds can be appropriated for the project without congressional reauthorization in 2014. Without this authorization the project would have to rely solely on local and state funds, dramatically increasing the commission's cost. The federal authorization of the Wrightsville Beach Renourishment project ends in 2036 and the authorization for Carolina Beach Area South ends in 2047.

Advantages: The county, through the establishment of the Wilmington-New Hanover Ports, Waterways and Beach Commission and its funding mechanism of a three percent local occupancy tax more than three decades ago, is able to avoid the political

controversies often associated with establishing new beach renourishment funding sources. In short, the establishment of the commission gives the county local control and a funding base that allows for significant local flexibility.

The county also benefits from the presence of three federally-authorized projects, which significantly lowers the local funding obligation for renourishment projects. Importantly, the Wilmington-New Hanover Ports, Waterways and Beach Commission has an excess of $15 million in its sand fund, allowing it to easily fund both federally sponsored and locally-initiated projects. This flexibility may be slightly decreased in 2014 when the federal authorization for the Carolina Beach Renourishment project ends. At that point, the commission may decide to continue the project using local funds, which would place a new financial burden on the sand fund.

Disadvantages: None.

b) Carteret County

The Carteret County Beach Commission advises the Carteret County Board of Commissioners of beach nourishment strategies and expenditures of the room occupancy proceeds dedicated to beach nourishment activities.

Created in 2001, the commission is comprised of eleven voting members selected by the Board of Commissioners according to a roster set by the General Assembly. It includes:

- Two individuals who reside within the town limits of Atlantic Beach.
- Two individuals who reside within the town limits of Pine Knoll Shores.
- Two individuals who reside within the town limits of Emerald Isle.
- One individual who resides within the town limits of Indian Beach.
- One individual who resides on Bogue Banks.
- One individual who resides anywhere in Carteret County.
- A member of the board of County Commissioners.
- A member of the Carteret County Tourism Development Authority (TDA).
- The County Manager
- The Commission's Shore Protection Manager

The mission of the Beach Commission is "to identify and develop plans, strategies, and programs to restore and maintain wide sandy beaches and dunes through environmentally sensitive beach nourishment, dune management, vegetation management, and sand management principles." The board is committed to obtaining funding at the federal, state, and local level for beach nourishment and storm protection projects that will prevent and mitigate further erosion of their existing shoreline. The board supports policies and procedures that comply with all federal, state, and local requirements.

Unlike the Wilmington-New Hanover Ports, Waterways and Beach Commission, the Carteret County Beach Commission's focus is entirely beach restoration; with waterway and dredging projects included within the commission's purview only to the extent the dredging operations can produce sand usable for beach renourishment. In fact, sand management is the cornerstone of the Carteret County Beach Preservation Plan, which is designed to retain sand within the beach and inlet system. Sand management strategies are implemented through beach fill projects, beneficial use of dredged material, and inlet management projects.

The commission's primary project objective is to secure a 50-year federal beach nourishment project that will address shoreline erosion on the entire Bogue Banks barrier island. Because of continued budget limits in Congress, however, this federal project has been delayed. As a result, the commission has developed an interim project strategy, called the Tier II projects, which are intended to stabilize the shoreline until the federal project can be undertaken. The three Tier II projects are: (1) the Bogue Banks Restoration Project, (2) USACE Dredge Disposal to Eastern Bogue Banks, and (3) a Section 933 project which uses maintenance dredging material from the ocean bar reach, or Outer Harbor of the Morehead City Harbor Federal Navigation Project.

Under its authorizing legislation, Carteret County can and does levy an occupancy tax of five percent for tourist and travel development and beach nourishment. Combined with state DWR grant funds and federal expenditures applicable to the interim projects listed above, occupancy tax revenues have been sufficient to fund the commission's beach restoration activities to date.

Advantages: By establishing an occupancy tax and operating through a legislatively created and empowered commission, Carteret County has established a framework to successfully plan and implement beach nourishment projects. To date, this framework has allowed the commission to leverage both state and federal funds without resorting to property taxes or other tax revenue streams. Importantly, Carteret County through the commission maintains local control over its beach nourishment projects and has the benefit of a professional Shore Protection Manager on staff.

Disadvantages: Without federal government involvement in the implementation of beach nourishment projects, Carteret County is unlikely to have the financial capacity to undertake the scale of beach nourishment projects needed to protect all the communities of Bogue Banks without a substantial increase in local or state revenue.

C. Funding Program Recommendations

Based on the tremendous economic and natural resource value of the North Carolina coast and the persistent forces of shoreline change that affect it, the state of North Carolina could consider establishing a dedicated state fund to help coastal communities plan and implement beach restoration and inlet management projects and strategies.

In addition, the state could build upon current models in New Hanover and Carteret counties to establish and empower regional entities that can partner with the state on projects supported by the state fund. Creating a dedicated fund in the manner described in this subsection is consistent with efforts in other states and past practice in North Carolina.

1. Dedicated Trust Funds: An Overview

a) National Overview

The use by states of dedicated funds and dedicated trusts to protect and enhance natural resources is common.[1] [2] Many of these funds were constitutionally dedicated, others approved by statute, while others resulted from voter-approved constitutional amendments.

As described previously, the use of dedicated funds for beach nourishment in Florida is well-established and Texas has attempted for several years to develop a permanent fund to support the state's erosion control efforts. Bills presented to the Texas Legislature appeared to be receiving support and may have resulted in the establishment of a fund after a ten-year effort on the part of coastal communities.

The budget mechanisms for supporting dedicated funds and trusts for natural resource protection are varied and include direct legislative appropriation and the use of lottery funds, sales tax set-asides, and real estate transfer fees. Some states try to link the revenue source to the use of the fund. For example, Texas uses a sales tax set-aside on sporting goods as the revenue source of a dedicated fund that supports the state's parks and wildlife department.

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[1] A thorough, but not exhaustive, discussion of state environmental trusts was produced by the State of Minnesota. At the time of publication, the document could be found at http://www.house.leg.state.mn.us/hrd/pubs/evntfund.pdf . It is otherwise referenced as Minnesota House of Representatives Research Department; *State Environmental Trusts*; December 2005.

[2] The words "dedicated fund" and "trust" are sometimes used interchangeably. Dedicated funds are funds or set-asides within state budgets; trusts are typically the organizations that are charged with managing dedicated funds. Not all states use trusts to manage dedicated funds.

b) North Carolina's Natural Resource Trusts

North Carolina has three trusts that support natural resource protection and restoration. These are the Parks and Recreation Trust Fund (PARTF), the Clean Water Management Trust Fund (CWMTF), and the Natural Heritage Trust Fund (NHTF).[1]

Parks and Recreation Trust Fund – PARTF is the state's principal funding source for state and local parks and recreation projects. Established in 1994, PARTF is supported primarily by the state's tax on real estate transfers. The revenue is split between three purposes, with 65 percent for state park land acquisition and capital improvements, 30 percent for matching grants to local governments, and five percent for beach access. In its 15-year history, PARTF has provided more than $250 million for the state parks system, more than $120 million for local park projects and more than $20 million for beach access. Local governments have provided more than $200 million in matching funds for the local projects.

The Division of Coastal Management, within DENR, awards about $1 million per year in PARTF funds as matching grants to local governments for beach and coastal waterfront access. Local governments may use access grants to construct low-cost public access facilities, including parking areas, restrooms, dune crossovers and piers; rehabilitate aging infrastructure like bathrooms; and acquire property for water access.

Clean Water Management Trust Fund – The CWMTF was created in 1996 to help local governments, state agencies, and non-profit organizations protect and restore surface water quality. More than 1,100 grants totaling more than $832 million have been awarded since it inception. Those funds have been matched by $1.4 billion from the project sponsors. The majority of the funding has been used to conserve buffer zones to protect the state's waterways. The CWMTF is funded by annual appropriation, established in statute of $100 million each calendar year.[2]

Natural Heritage Trust Fund – The NHTF, established in 1987, provides funding to state agencies for the acquisition and protection of important natural areas, to preserve the state's ecological diversity and cultural heritage, and to inventory the natural heritage of the state. Since its creation, the fund has contributed more than $265 million through 446 grants to support the conservation of more than a quarter million acres of land. A portion of the real estate transfer tax and a $10 charge on personalized license plates supports the NHTF.

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[1] The discussion of North Carolina's existing natural resource trusts relies heavily on text already developed for the "*North Carolina Outdoor Recreation Plan 2009-2013 – DRAFT*"

[2] General Statutes § 113A 253.1

c) The Pros and Cons of Dedicated Funds

There is a public policy debate about whether it is a prudent financial strategy for a state to establish dedicated funds, especially funds that are constitutionally restricted. Many state budget officers and elected officials fear that in times of economic hardship, "locking up" funds in one budget category – for example, highways or natural resources – by a constitutionally-dedicated fund, limits the ability to address pressing needs in another budget category or makes it more difficult to address an approaching budget deficit. Even in cases where funds are not constitutionally dedicated and are subject to annual appropriation, there may be significant political pressure to appropriate monies for the funds even when other needs may be more pressing in times of economic downturns.

Use of dedicated funds in areas of state budgets that typically require long-term planning and capital investment, such as highway construction and acquisition of natural resources areas, allows for some guarantee of funding upon completion of often expensive planning and engineering efforts. For example, if a county is asked to support, through planning and engineering design, new highway construction, local commitment may only be palatable if, at the end of the expensive design process, there is some assurance that funding for actual construction will be in place.

This is often the case for natural resource protection and restorations efforts as well. Local governments and state agencies undertake planning efforts to acquire natural areas and parklands, and to construct supporting infrastructure or facilities. In some cases, dedicated funds are distributed to local communities and nonprofit organizations in the form of matching grants. Communities and organizations benefit from the guarantee that grants may be awarded from a dedicated fund or trust at the end of the planning process. Matching grant programs leverage local funds and project management expertise, often resulting in larger, more effective projects, and local community support for long-term maintenance of the project.

d) Dedicated Funds Principles

With respect to the establishment of a dedicated fund for beaches and inlet projects, North Carolina could consider a set of principles to help guide fund implementation.

(1) Shared Benefits, Shared Responsibility.

The state's beaches, inlets and coastal waterways produce a range of benefits for both the public and private sectors. The funding plan adopted by North Carolina should reflect a "shared benefits, shared responsibility" approach, where both public and private entities that benefit from the affected resource contribute to its restoration and maintenance.

The public, for example, benefits from the state's beaches through expanded public access; enhanced tourism opportunities; protection of coastal roads, utilities and other infrastructure from storm damage; increased economic activity; and significant state and local tax revenues. Similar public benefits are also associated with maintenance of the

state's navigable inlets. These significant "public benefits" provide a foundation for the state to partner with coastal counties and municipalities to invest in the protection, restoration and maintenance of beaches and inlets.

Coastal property owners and the broader "private sector" also benefit from the state's beaches, inlets, and waterways. As a result, it is reasonable to expect that those who benefit most directly share in the financial responsibility for beach restoration and inlet maintenance projects. For example, an eroding beach can directly threaten private property, decrease property values, disrupt tourism-dependent businesses, and reduce rental and business income. Many coastal communities impose special property tax assessments to help pay the cost of beach nourishment projects. Typically, beachfront owners pay a higher tax rate than more inland property owners, reflecting the difference in benefit the projects are expected to provide.

Over-reliance on property taxes and assessments, however, can create an unstable funding stream and unfairly impose the burden of shoreline change on one beneficiary group. A more sustainable funding approach will likely require balancing contributions from the public sector (at the municipal, county and state levels) and the private sector. In this approach, the public sector would reinvest a portion of the tax revenues derived from the coastal tourism economy back into the maintenance and support of coastal resources, the beaches and inlets.

(2) Beaches, Inlets, and Waterways Should Earn their Keep

North Carolina's beaches, inlets and waterways are a tremendous tourism draw, generating billions of dollars in economic activity each year and significant tax revenues for the state. As noted in subsection B, the eight oceanfront counties contribute more than $100 million annually in tax revenue to both the state coffers and to the local tax base in those counties.

In principle, state revenues pledged to a dedicated fund should be derived from a portion of the economic activity in the eight oceanfront counties associated with tourism as well as economic activity associated with the beaches, inlets, and waterways. In effect, these coastal resources should earn their keep.

(3) Shoreline Management, Not Crisis Response.

Too often, the response to shoreline erosion or inlet problems is driven by catastrophic storm damage or other crisis. Crisis conditions tend to move elected officials, agencies, and coastal residents to action. Crisis-driven response does not, however, serve the public interest. Projects designed and undertaken in the aftermath of a crisis are often more expensive and address stress conditions rather than the long-term health and function of the beaches, inlets and waterways.

A reliable, predictable funding source, coupled with comprehensive planning, would put North Carolina in a position to more effectively manage its beaches and inlets. Storms and hurricanes will, of course, continue to impact the coast, but active management based on a solid financial foundation bolstered by forethought is more effective than management by crisis.

(4) Federal Funds First

As the state considers development of a dedicated fund, North Carolina should continue to aggressively seek federal shore protection projects and other federal financial support to meet its beach and inlet restoration and maintenance needs. As illustrated by New Hanover County, federal shore protection projects can be the cornerstone of a financially stable shore protection and inlet management strategy, but expanding and winning new federal projects can be a difficult task.

(5) Stability and Predictability Balanced with Local Control and Flexibility

Erosion, coastal storms, wind and waves are persistent but irregular natural forces that alter the coast. A dedicated fund should therefore provide a stable source of funding to facilitate long-term planning and establish a predictable local match obligation for coastal communities as they contend with a dynamic natural environment. Because coastal counties and communities are not identical, establishing project priorities should be vested at the local level, rather than state level, and coastal communities should have the flexibility to provide the required match in manner best suited to local needs and priorities.

2. North Carolina Beach, Inlet and Waterway Fund

In February 2009, the North Carolina Coastal Resources Commission and the North Carolina Coastal Resources Advisory Council passed a resolution "requesting that their member representatives in the North Carolina General Assembly establish a legislative study commission to prepare a comprehensive plan that leads to the creation of a ***North Carolina Beach, Inlet and Waterway Fund*** to be used with federal and local matching funds" for the following coastal infrastructure projects:

- Beach nourishment;
- Removal of structures encroaching onto public beach areas;
- Inlet channel realignment;
- Dredging navigation channels in inlets and waterways, and
- Public beach, inlet and waterway access.

The Coastal Resources Commission and the Advisory Council further resolved that the comprehensive plan for the trust fund should include, but not be limited to the following:

- *Potential revenue streams including state and/or local sales taxes, revenues generated from the Coastal Recreational Fishing License, or other appropriate sources, in order to provide a Permanent Trust Fund or other adequate funding for ongoing operations; and*

- *A study commission membership that includes representatives of the Coastal Resources Commission, the Coastal Resources Advisory Council, the Division of Coastal Management and other private and public representatives as deemed appropriate; and*

- *A 12-month timeline to complete the work of the study commission and to present a report to the General Assembly.*[1]

The dedicated fund concept outlined below is intended to generally advance the broadly framed trust fund study proposal adopted by the Commission and Advisory Council. This concept could serve to stimulate further discussion and deliberation should a dedicated fund study committee be formed.

a) Allowed Uses of the Dedicated Fund

A beach and inlet management fund could have two broad funding categories, reflecting two distinct uses:

- Part A: Project Cost Sharing Funds and
- Part B: Program Support and Efficiency Funds.

(1) Project Cost Sharing Funds

Part A: Project Sharing Funds would be used to offset a minimum of 40 percent and up to 50 percent of the cost to design, permit and construct eligible projects.

To promote and facilitate long-term project and financial planning at the local level, the state should consider establishing a minimum state contribution of 40 percent for the design, permitting and construction of eligible projects.

Beyond the 40 percent "funding floor," the state could support up to an additional 10 percent of the project cost if certain "public interest" criteria were met.

For example, the state could support communities with a grant larger than 40 percent if they exceed minimum public access requirements or effectively restrict or prevent development in high-risk areas.

[1] North Carolina Coastal Resources Commission and North Carolina Coastal Resources Advisory Council, Resolution Seeking Establishment of a North Carolina Beach, Inlet and Waterway Trust Fund Study Commission, (February 12, 2009)

The development of criteria for a "sliding scale" is a more complex issue than can be developed here, and would likely require significant public input. However, if the General Assembly authorizes the fund development study requested by the Coastal Resources Commission, the commission could consider using a sliding scale for project support based on clear public interest criteria.

(2) Program Support and Efficiency Funds

Part B: Program Support and Efficiency Funds would be set-aside for a distinctly different purpose than on-the-ground implementation. These funds would support joint or regional investigations, such as regional geotechnical or sand search studies, combined pre- and post-project monitoring studies, or programmatic Environmental Impact Statements (EIS) for similar projects.

In most states, including North Carolina, beach restoration projects are frequently planned, designed, permitted, and constructed on a project-by-project basis. Often it is difficult to investigate or take advantage of possible cost savings that might be derived if similar projects in an area were undertaken or approached in a like manner to take advantage of "efficiencies of scale."

For example, beach projects in nearby communities often require extensive pre- and post-project shoreline surveys or detailed geotechnical studies of potential offshore sand resources. Typically, these tasks are identified and undertaken separately even when the same contractor is capable of supporting both projects at a lower combined cost if the adjoining communities worked together. Similarly, beach and inlet projects can require complex regulatory studies such as EAs or EISs. For projects in the same region, there is the real potential for saving time and reducing costs if the environmental, geotechnical, and monitoring studies for similar projects are combined.

To encourage local communities to think regionally and combine efforts where possible, the state could consider establishing a higher cost share contribution for Part B funds, up to 75 percent, where interlocal cooperation or regional cooperation improves project cost efficiencies.

Part B funds could also be used to fund the management and administrative costs of the fund, such as a dedicated state coordinator.

b) Fund Operation Issues

If created, certain operational and management issues may need to be addressed for proper functioning of a beach and inlet management fund. The issues are likely to include fund organizational structure and staffing, grant application, allocation of dedicated funds among coastal regions and project types, development of state and regional project cooperation agreements, and possible use of regional beach coordinators similar to the Carteret County model.

If a dedicated fund study committee is established, as recommended by the CRC, these operational and management issues should be included in the investigation. The fund could be staffed at the state level by a dedicated manager, combined with locally-supported, regional project liaisons for each of the Regional Commissions to be discussed later. In the interim however, DWR staff could continue to serve as administrators of the funds allocated until the program matures.

c) Fund Revenue Needs

Based on the information available during this investigation, the annual revenue needed to support eligible projects s is dependent on at least three major policy decisions.

First, the state must define what specific projects would be eligible for funding. As an example, the Coastal Resources Commission recommended that the fund be used to support beach nourishment; relocation of structures encroaching on the beach; inlet channel realignment; dredging navigation channels, inlets and waterways; and public beach, inlet and waterway access.

Second, the state share for projects supported by the fund must be established. As stated above, the state could consider a two-part fund, with the state paying between 40 percent and 50 percent of project design, permitting and construction (Part A), and 75 percent of specific program support or efficiency measures (Part B), such as regional sand search investigations, regional pre- and post-project monitoring, and regional environmental studies. If the General Assembly initiates the fund study, and an analysis of revenue needs and project priorities is advanced, it is likely that cost-share percentages may vary between eligible project categories such as inlet dredging or structure relocation.

Finally, the annual revenue demand on the fund will vary with changes in federal project funding levels**.** Nonetheless, based on the analyses outlined in Section VI, a preliminary estimate of the funding needed to nourish all developed beaches in the state may be as much as $19.1 million annually. Adding existing inlet dredging costs for shallow and deep draft inlets ($23.2 million per year) increases the overall total to $42.3 million per year. This total cost includes federal, state, and local participation in current beach and inlet projects. This estimate is for beach and inlet projects only. While the Atlantic Intracoastal Waterway (AIWW) inlet crossings were included within the study, the AIWW as a whole was not.

d) Possible Revenue Streams

As stated in the general principles above, the state could provide a stable and predictable level of funding for a beach and inlet management fund. Moreover, the selected revenue stream could be derived, to the extent possible, from economic activities in the eight coastal oceanfront counties. In a February 2009 resolution, the CRC and CRAC stated that the fund study should consider, "potential revenue streams including state and/or local sales taxes, revenues generated from the Coastal Recreational Fishing License, or other appropriate sources, in order to provide a permanent trust fund or other adequate funding for ongoing operations."

3. Regional Management

In addition to creating a state fund dedicated to supporting beach and inlet projects, the state could encourage the creation of regional shoreline management entities generally modeled on the commissions currently in place in Dare, Carteret, Pender New Hanover, and Brunswick counties.

a) Essential Characteristics: Local Control & Flexibility

To be successful, a regional entity should have three essential characteristics:

1. Serve as an integrated, regional decision-making body with authority to coordinate beach and inlet projects,

2. Possess the financial and legal authority to partner with the state, and

3. Have available a local funding stream sufficient to match the dedicated state funds, either directly or in association with municipalities within the region.

Though not identical, these three essential attributes are found in the Carteret County Beach Commission and the Wilmington-New Hanover Ports, Waterways and Beach Commission. The commissions in Brunswick, Pender, and Dare Counties have some of the above attributes currently but not all three.

Each regional entity could develop a project plan and budget based on established and predictable state fund contributions (Part A, 40-50 percent state share; Part B, 75 percent state share). Members would be selected to best suit each region; however, local representatives from the county and all beachfront municipalities within the region should be mandatory. Based on the success of the Carteret County Beach Commission, a professional coordinator could make a significant difference in the effectiveness of a regional shoreline management entity.

b) Regional Commission Funding Sources

A regional commission could develop a local funding plan most appropriate for the region, its local municipal governments, and the public. This revenue stream would need to be sufficient to meet project demands, accounting for the predictable state fund contribution to the projects. For example, some regional commissions may wish to consider county-wide occupancy taxes while other might choose to use local sales tax receipts, property taxes, or an increase in the dedicated prepared meals tax.

Under North Carolina law, prepared meals sold at retail are taxed in the same manner as local option sales and use tax. As of fiscal year 2006-07, only Cumberland, Dare, Mecklenburg, Orange, and Wake counties, and Hillsborough (a municipality within Orange County) were authorized to levy the prepared meals tax. If all eight oceanfront counties imposed a one percent prepared meals tax, it would have generated approximately $10.9 million in additional revenue, based on fiscal year 2006-07 data. Each regional commission would be responsible for evaluating the diverse potential funding options available and developing a funding plan sufficient to meet its needs.

D. Potential Prioritization Criteria for State Funding

As stated previously, the state DWR currently funds beach and inlet projects by line items added by the General Assembly to its budget. While simple and efficient, this line item type of project authorization may not be necessary if a dedicated fund is developed by the state. Under this scenario, specific prioritization criteria and weighting scales would need to be developed to provide a level playing field for potential applicants. Some potential ranking criteria to be included within a matrix to determine the level of project funding might include:

1. Public Access – A community should provide a reasonable level of public access. The USACE currently requires one access point per half mile of nourished beach and parking within a quarter-mile radius of each access point. Parking is also required to satisfy the lesser of beach capacity or peak-hour demand, which is considered to be July 4. The USACE Wilmington District has recently used a ten-space minimum parking requirement for Topsail Beach studies.

2. Encroaching Development – A community should have a policy/program to address structures that are obstructing or encroaching on the public beach or are a hazard to public health and safety. This policy should be consistent with N.C.G.S. § 146-6(b) which states "[i]f any land is, by act of man, raised above the high watermark of any navigable water by filling, except such filling be to reclaim lands theretofore lost to the owner by natural causes or as otherwise provided under the proviso of subsection (d), title thereto shall vest in the State and the land so raised shall become a part of the vacant and

unappropriated lands of the State, unless the commission of the act which caused the raising of the land in question shall have been previously approved in the manner provided in subsection (c) of this section."

3. Long-Term Beach and Inlet Management Plan – A community should have a long-term (no less than 30 years) beach and inlet management plan developed in a regional context that includes regional leadership and oversight, and includes a construction plan (initial and maintenance), documentation of shoreline change or erosion rates, identification of compatible sand (as defined in T15A NCAC 07H .0312), volumes necessary for initial construction and maintenance, cost estimates, and identification of the financial resources necessary to fund initial construction and maintenance of the project. The plan should also include buyout and relocation strategies.

4. Beach Fill Monitoring Strategy – A community should have an annual beach fill maintenance and monitoring strategy that meets the minimum criteria of the Federal Emergency Management Agency (FEMA) that ensures the community remains eligible for federal reimbursement for replacing sand volumes lost during a federally declared disaster.

5. Cost-Benefit Study – A community should have a cost-benefit study to justify the proposed project that, in addition to beach fill, includes the comparison of various scenarios such as development relocation without beach fill and no action.

In addition to the above, funding priority may also be given to the following types of projects:

1. Federally approved beach fill (*e.g.,* storm protection, habitat restoration) or beneficial use of dredged material projects (*e.g.,* 933 projects) where state funds can be leveraged against federal funds to the maximum extent.

2. Projects in areas with immediate threats to upland development, recreation, wildlife habitat, or important cultural resources.

3. Projects with longer life cycles (*e.g.*, larger sand volumes, long reach, less frequent maintenance) that achieve economies of scale.

4. Projects with higher cost-benefit ratios.

5. Regional projects developed in conjunction with adjacent communities that achieve a greater regional benefit.

6. Greater public access opportunities

While not entirely inclusive, the above list could provide a starting point in the development of criteria and potential weighting of projects for funding. It is expected that refinement of the prioritization methods and criteria would be completed once a dedicated fund is established.

E. Recommendation Summary: A Dedicated State Fund and Regional Commissions

Beach and inlet projects can be expensive, technically challenging, and full of complex legal and regulatory issues. It is difficult for an individual local government to undertake an effort to plan, authorize and fund a beach project. A dedicated state fund to support local projects, building on the proven regional planning models now operating in North Carolina, could allow for more cost-effective and environmentally sound management of the state's beaches and inlets.

Creating a dedicated state fund for coastal projects and the establishment of regional commissions by local interests would place North Carolina at the forefront of coastal states seeking to improve the management, restoration and preservation of their beaches and inlets.

A dedicated state fund could create a more manageable and predictable level of state expenditures, allowing for better planning for coastal needs with less stress on the limited general revenues. The fund would also reduce financial uncertainties at the local level that often contribute to project delays, increase costs, and disrupt local planning efforts. A reliable and predictable state funding source would allow coastal communities to make informed decisions about allocation of new or existing sales or property tax revenues to coastal projects, knowing the state was committed to sharing the costs. With project uncertainties reduced, the dredging industry could better anticipate upcoming work, increasing competition and potentially reducing project costs. A dedicated source of state funding could also lead to the development of innovative technologies by the dredging industry, which may operate at lower costs. With greater financial predictability, uncertainty can be reduced at all phases of implementation.

Increased state involvement in administration of a dedicated fund may require additional staff resources in both the Division of Water Resources and Division of Coastal Management to assist with fund administration and permitting. In the interim, existing staff could be utilized, and given the current economic downturn, it may be necessary to phase in the program over a number of years.

The "Regional Commissions" model would also contribute several important and additional advantages to a beach and inlet program. First, regional commissions could provide coordinated project planning and management within a region, maximizing efficiency and cost-saving opportunities such as area-wide sand search investigations,

comprehensive shoreline monitoring for all projects in the region, and coordinated environmental investigations and studies, such as programmatic EISs.

Regional project commissions could also simplify project coordination between the state and local level. Rather than the state dealing directly with multiple municipalities, the regional commission would serve as the interface between the state and local municipalities.

Finally, regional commissions could have the flexibility to raise funds in the manner most appropriate to the region, within options made available by the state. With predictable state project contributions, the local project cost contribution would be known. The commissions would then have the discretion to decide how to best reach that level, motivated by the certainty of state cost share.

Overall, a dedicated state fund to support beach, inlet, and waterway projects, coupled with empowered and financially capable regional commissions, would allow North Carolina to protect, restore and maintain its beaches and inlets.